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ANNUAL REPORT

OF THE

DIRECTORATE GENERAL OF HEALTH SERVICES

1957

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INTRODUCTION

Ever since India attained independence, the Central Ministry of Health is acting as a pivot round which all the major schemes for improving the standard of health of the nation revolves. The Central Ministry is cooperating and encouraging the individual States of the country by supply of technicians, money and advice to complete their own part of various national schemes for the control of malaria, filaria, leprosy, T.B., venereal diseases and other communicable diseases.

The Central Council of Health was established for this purpose in 1952 under Article 263 of the Constitution of India with the Union Health Minister as Chairman and the State Health Ministers as members. Through the coordinational and advisory functions of the Central Council of Health in regard to the provisions of remedial, preventive care, environmental hygiene, nutrition, health education, training and research, the individual States received central assistance from central agencies to contribute to the success of national health programme. It is gratifying to note that we have so far achieved more hospitals and dispensaries, more doctors, more nurses and other anciliary medical and public health personnel and wider health education. It has been observed that there is a trend of improvement in health of people. The centre is directly responsible for matters connected with the health of the Union Territories of Manipur, Delhi, Tripura, Himachal Pradesh and Andaman and Nicobar Islands. During the last decade, the major problem affecting the health and medical relief has been brought in grips and large scale operation of control of communicable diseases have also been initiated.

The information contained in the Annual Report for 1957 was supplied partly by the State Health Authorities in reply to a set of questionnaires issued by this Directorate and partly by the various sections of this Directorate. The information supplied by the various State health authorities may not be complete in all States as the State Authorities experience considerable difficulty to collect materials from a large number of administrative units. Whatever information was available has been put in the form of a report and every effort has been made to complete the picture as far as the year is concerned.

The materials in the Annual Report have been carefully compiled. However, it is requested that defects detected, if any, by readers may be brought to the notice of the Director, Central Bureau of Health Intelligence, Directorate General of Health Services with suggestions for necessary modifications.

Thanks are tendered to the responsible officers of various sections and institutions of the Central and the State Governments who collected and supplied the materials and data on which the information given in the Annual Report, 1957 is based.

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CHAPTER I

POPULATION AND VITAL STATISTICS

Population—The last decennial census of population was taken on the first March, 1951. 3,569 lakhs of persons were enumerated as against 3,128 lakhs in 1941 in the Indian Union excluding the State of Jammu and Kashmir and tribal areas of Assam where no census could be conducted because of the peculiar conditions obtaining there. 14.7 was the percentage increase during the decade 1941—51.

The density of population was 303 per sq. mile for the Union as a whole. However, wide variation was noticed among the different States in respect of density. Delhi had 3,017; Kerala and West Bengal 928 and 753 respectively while in Rajasthan it was 119; Himachal Pradesh had 102 and Manipur 67. The densities given above relate to the reorganised States.

For intercensal years only estimates can be attempted. The following table gives the mid-year estimated population for the year under review and corresponding densities for different States in India:—

Name of the State 1	Population in millions 2	Density per sq. mile 3
1. Andhra Pradesh	33·96	321
2. Assam	10·10	119
3. Bihar	41·26	624
4. Bombay	53·90	282
5. Kerala	15·43	1,057
6. Jammu and Kashmir	4·67	50
7. Madhya Pradesh	27·48	161
8. Madras	32·69	651
9. Mysore	21·70	295
10. Orissa	15·22	253
11. Punjab	17·08	360
12. Rajasthan	17·47	132
13. Uttar Pradesh	67·83	598
14. West Bengal	28·45	814
Union Territories		
1. Andaman & Nicobar Islands	0·03	9
2. Delhi	2·12	3,668
3. Himachal Pradesh	1·14	105
4. Manipur	0·63	73
5. Tripura	0·74	180
6. Laccadive Islands	†	†
7. Pondicherry	†	†
INDIA	391·73	309

† Not available.

The total estimated population was 3,917 lakhs and the density rose to 309. In respect of individual States, the densities of Delhi, Kerala and West Bengal reached 3,668, 1,057, 814 respectively, while at the other end Rajasthan, Himachal Pradesh and Manipur had 132, 105 and 73 respectively.

The rates of increase of population for 1957 in different countries provide an interesting study reflecting as they are, their social and economic conditions are given below:—

Country	Percentag rate of increase
U. S. A.	1·8
United Kingdom	0·4
Belgium	0·6
Canada	2·7
Sweden	0·7
France	0·8
Switzerland	1·1
New Zealand	2·1
West Germany	1·1
Italy	0·5
Japan	1·3
Burma	1·4
Egypt	2·3
Thailand	1·9
Phillipines	1·9
India	1·3
Ceylon	2·5
Indonesia	1·8
China	3·8
Malaya	3·1

It can be seen from the table that they are significantly less for advanced countries barring U.S.A., Canada and New Zealand, in comparison with the Asian countries. India and Japan had the same rate of increase while China and Malaya had the highest rates.

The comparison of population in rural and urban sectors is of particular interest from many angles. The following was the break up for different States among the States obtaining in 1951:—

States	Percentage of urban population
1. Andhra Pradesh	17·4
2. Assam	4·6
3. Bihar	6·8
4. Bombay	28·3
5. Jammu and Kashmir	†
6. Kerala	13·1
7. Madhya Pradesh	12·0
8. Madras	24·4
9. Mysore	30·0
10. Orissa	4·0
11. Punjab	19·0
12. Rajasthan	18·5
13. Uttar Pradesh	13·6
14. West Bengal	23·9

† Not available.

States	Percentage of urban population
Union Territories	
1. Andaman & Nicobar Islands	25·9
2. Delhi	82·4
3. Himachal Pradesh	4·1
4. Manipur	0·5
5. Pondicherry	†
6. Tripura	6·7

† Not available.

The lowest percentage of urban population was in Manipur and the highest in Delhi territory. Bombay had a high degree of urbanisation, Madras, West Bengal, and Mysore accounted for almost the same and follow Bombay. In India as a whole only 17.3 per cent of population was in urban areas and 82.7 per cent was in the countryside as against 12.8 per cent and 87.2 per cent during 1941 respectively. These figures be-speak partly of the degree of industrialisation affected in these States. The urban population of the country was spread over 72 cities having more than one lakh population and 228 towns varying from 30,000 to one lakh and 2,718 towns less than 30,000. The percentage of urban population in cities having more than one lakh was 38.1.

An important study of population is its age composition and at the time of the census, 13.5 per cent were infants and young children under the age of 4 years and 24.8 per cent were boys and girls between the age of 5 and 14 years. Young men and women between the ages 15 and 24, constituted 17.4 per cent of the population and 15.6 per cent were more than 25 years of age, but less than 35 years of age. Middle aged men and women in the age group of 35 to 54 years formed 20.4 per cent of the population and elderly persons beyond the critical age of 55 accounted for 8.3 per cent of the total number. It would be observed that 45 per cent of the population was in the reproductive part of life.

Table below gives comparative figures of percentages of population in different age-groups for the United Kingdom and India:—

	Age groups	Percentage in 1951 (India)		U. K . 1951
Infants and young children	0—4	13·5		8·6
Boys and girls	5—14	24·8		13·9
Youngmen and women	15—24	17·4	33·0	27·6
	25—34	15·6		
Middle aged men and women	35—44	11·9	20·4	28·7
	45—54	8·5		
Elderly persons	55—64	5·1	8·3	21·2
	65—74	2·2		
	75 & over	1·0		

A much larger percentage of population of the United Kingdom consists of elderly persons. Again, a much smaller percentage of population of the United Kingdom was below the age of 15 years.

Table below displays another important feature of the population namely, the proportion of women in the reproductive age group 15—44 years: —

Country	Year		Population of women in age-group 15—44
1. Canada	1955	(Estimate)	430·07
2. U. S. A.	1954	Do.	42·43
3. France	1954	Census	38·55
4. England & Wales	1954	Estimate	40·12
5. Sweden	1953	Do.	41·35
6. Japan	1954	Do.	46·21
7. Morocco	1952	Census	45·92
8. Gaut mala	1950	Do.	45·28
9. Ceylon	1953	Estimate	46·45
10. Taiwan	1953	Do.	44·05
11. Phillipines	1953	Do.	47·81
12. India	1951	Census	45·89

It will be observed that this percentage is higher in the case of so-called under-developed Asian and North-African countries and lower in the case of more advanced nations.

Another important feature of the population is the number of females per 1,000 male population. Table below gives the values as obtained in 1951 census for re-organised States: —

State	Females per 1,000 males (1951)
1. Andhra Pradesh	986
2. Assam	879
3. Bihar	990
4. Bombay	944
5. Madhya Pradesh	967
6. Madras	1,007
7. Orissa	1,022
8. Punjab	858
9. Uttar Pradesh	910
10. West Bengal	864
11. Mysore	966
12. Kerala	1,028
13. Delhi	768
14. Himachal Pradesh	914
15. Rajasthan	921

It is significant to note that in all the States except Kerala, Madras and Orissa, the number of females were smaller in number than males, while Kerala recorded the highest and Delhi the least.

Vital Statistics—Registration of births and deaths is important and can serve as a sort of census indicating the changes in population during inter-censal periods. It has profound bearing on planning and health problems. In India itself registration is century old. The present position in different States in India is varying and the States are in different stages of completion and accuracy in this regard.

The table below gives legal position of registration of births and deaths in different States: —

	States where registration is compulsory	States where registration is voluntary
Urban	All except Tripura ..	..
Rural	Andhra, Bihar, Madras, Punjab, U.P., Mysore, Kerala, Hyderabad, Orissa, West Bengal, Ajmer, Delhi, Himachal Pradesh, Coorg (partly), Andaman and Nicobar Islands.	Assam, Manipur, Madhya Pradesh, Bombay, Kutch, Bhopal, Rajasthan, Vindhya Pradesh, Saurashtra and Madhya Bharat.

The degree of completion of registration does not in fact depend on its legal position. Although it may be voluntary in a State, it can yet be complete. According to the degree of completeness or satisfactory position of the system, the States can be broadly grouped into three categories according as information is (i) satisfactory, (ii) fragmentary and (iii) deficient, the first group containing erstwhile States of Andhra, Bihar, Bombay, Delhi, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Uttar Pradesh, West Bengal, Ajmer and Coorg; the second one comprising of Assam, Himachal Pradesh, Hyderabad and Travancore-Cochin; the last constitutes of Bhopal, Kutch, Madhva Bharat, Manipur, PEPSU, Rajasthan, Saurashtra, and Tripura.

A rough idea of population according to 1951 census and area in square miles for the three groups can be obtained from the following table: —

Group	Area in sq. miles	Percentage	Census population	Percentage
I	665,991	52·7	274,457,647	76·9
II	130,496	10·3	37,028,375	10·4
III	470,213*	37·1	45,393,372	12·7
TOTAL ..	1,266,700	—	356,879,394	—

*Areas above no registration is done is included in this category.

It can be seen from the table above that the system can be said to be satisfactory only for 53 per cent of area and 77 per cent of population of India. Registration of births and deaths is undertaken by most of the States under local self-government, Police, Public Health or Revenue Acts.

The registration areas of the country can be divided into four categories on the basis of available registration agency: —

(i) Urban areas where the municipal authorities act as registrars and the reporting is done by their own staff.

(ii) Rural areas where the lowest Police Official is the registrar, the reporting being done by the village chowkidars or watchmen. These areas constitute the largest group.

(iii) Rural areas where registration is the responsibility of village panchayats.

(iv) Rural areas where registration is done by the village headmen and returns are submitted through the Tehsildars instead of the Civil Surgeons.

The following table gives the details for different States:—

State	Reporting agency	Registering authority	Official channel
1. Andhra	Head of the family	Municipality ..	Director of Health Services.
2. Assam	Father	Do	Do.
3. Bihar	Head of the family	Do.	Do.
4. Bombay	Watchman	Police Station	Police Patel—Mamalatdar, Director of Public Health
5. Jammu and Kashmir	†	†	†
6. Kerala	Father or Midwife	Health Asstt. in Rural area and Registrar in Urban area.	Taluka Health Inspectors (Taluka Registrars) Director of Statistics, Director of Health Services.
7. Mysore	Father or village patel	Municipality	Director of Public Health.
8. Madras	Watchman	Village headman	Tehsildar—D.H.S.
9. Madhya Pradesh ..	Head of the family	Municipality	Civil Surgeon—D.H.S
10. Orissa	Do.	Do.	Director of Health Services.
11. Punjab ..	Do.	Do.	Civil Surgeons—D.H.S.
12. Uttar Pradesh ..	Watchman	Do.	Do.
13. West Bengal ..	Do.	Do.	Do.
Union Territories			
1. Andaman and Nicobar Islands.	Head of the family or midwife.	Registrar ..	Senior Medical Officer.
2. Delhi . ..	Head of the family	Municipality	Municipality, Medical Officer of Health—D.H.S.
3. Himachal Pradesh ..	Watchman ..	Do.	Director of Health Services.
4. Manipur	†	†	†
5. Pondicherry ..	†	†	†

† Not available.

The detailed position of births and deaths in the various States is given in Table Nos. 1 and 2.

As mentioned earlier the registration is not of the same order of accuracy or completeness in all the States. As such, consolidation at all India level cannot be attempted. The registered birth rates for 1957 for individual States are given in the Table No. 1 along with corresponding figures for 1956. It can be seen from the table that during 1957, Punjab recorded the highest figures of 39.61 and Manipur 9.26 the least; the other States, Bombay (28.80), Madras (26.74), Andaman & Nicobar Islands (21.45), Andhra Pradesh (19.31), falling in between. In comparison with 1956, the birth rates have slightly decreased in many of the States, for which information is available. The highest figure in Punjab may be partly due to the high degree of accuracy in the registration system. Even comparison between individual States is not strictly warranted on account of the varying degrees of accuracy. Birth rate for rural and urban areas are also presented in the table. In both the years, the birth rates in the urban areas are more than in rural areas. Probably, the reason is that registration in the urban areas is more efficient than in the rural areas.

During the year under report, the percentage of omissions available for the four States varied. The figures for the individual States of Andhra Pradesh, Uttar Pradesh, Madras and Himachal Pradesh were reported to be 2.70, 0.83, 2.14 and 14.75 respectively.

From the biological point of view, it would be interesting to study the seasonal variation in the birth rate. The birth rate in all the States display maxima and minima for the year under report. They are also presented in the table under discussion.

In the majority of the States for which information is available, December was the month recording highest rate and February, the least birth rate. A special study of these values in regard to climatic variations for the individual States may reveal the nature of correlations between the two factors.

Sex ratio, i.e., the number of male babies per 100 female babies during the year 1957 is given in the same table. The numbers of male babies are more in all the States. Last year, too, the same States namely, Manipur, Punjab, and Uttar Pradesh recorded the highest. In this connection an extract from the Census Commissioner's Report, 1951 is worth noting. He remarks: —

> "The occurrence of an excess of more births is not an accident, nor is the fact that this excess is much more pronounced in Uttar Pradesh than in the other States. It would seem that we are face to face with the working of some biological law. Is that conclusion valid or is it vitiated by the fact that all births do not get registered. We know that there are omissions in the registration of births. It is also there that the extent of such omissions is not the same in all the States. It cannot, therefore, be denied that it is difficult to be certain on the conclusion. The causes which lead to the omission of registration of births are not peculiar to female births. Female births are not much more likely to get omitted than male births. It is difficult to think of any kind of systematic bias which would lead to continuous and universal suppression of female births in such large number".

The following table gives the figures of sex ratio for the last five years: —

States	Year	No. of males per 100 female children
1. Andhra Pradesh	1953	†
	1954	106
	1955	107
	1956	107
	1957	107
2. Assam	1953	108
	1954	†
	1955	107
	1956	106
	1957	†
3. Bihar	1953	†
	1954	†
	1955	†
	1956	109
	1957	110

† Not available

State	Year	No. of males per 100 female children
4. **Bombay**	1953	109
	1954	107
	1955	107
	1956	107
	1957	108
5. **Jammu and Kashmir**	1953	†
	1954	†
	1955	†
	1956	†
	1957	†
6. **Kerala**	1953	†
	1954	107
	1955	†
	1956	107
	1957	106
7. **Madras**	1953	106
	1954	106
	1955	106
	1956	107
	1957	106
8. **Mysore**	1953	105
	1954	†
	1955	104
	1956	104
	1957	104
9. **Madhya Pradesh**	1953	109
	1954	108
	1955	†
	1956	†
	1957	†
10. **Orissa**	1953	†
	1954	108
	1955	†
	1956	†
	1957	†
11. **Punjab**	1953	114
	1954	114
	1955	113
	1956	114
	1957	114
12. **Rajasthan**	1953	105
	1954	†
	1955	121
	1956	119
	1957	122
13. **Uttar Pradesh**	1953	121
	1954	120
	1955	118
	1956	122
	1957	121
14. **West Bengal**	1953	108
	1954	108
	1955	108
	1956	109
	1957	109

† Not available

State	Year	No. of males per 100 female children
Union Territories		
1. **Andaman & Nicobar Islands**	1953	†
	1954	†
	1955	99
	1956	†
	1957	108
2. **Delhi**	1953	†
	1954	110
	1955	111
	1956	†
	1957	†
3. **Himachal Pradesh**	1953	112
	1954	†
	1955	113
	1956	112
	1957	112
4 **Manipur**	1953	†
	1954	†
	1955	†
	1956	125
	1957	128
5. **Tripura**	1953	†
	1954	†
	1955	104
	1956	120
	1957	†
6. **Pondicherry**	1953	†
	1954	†
	1955	†
	1956	†
	1957	†

†Not available.

Table No. 2 gives the death rates in different States during 1957. The highest death rate was recorded in Bombay (15.00), Madras (14.22), Punjab (13.77) and Andhra Pradesh (10.51) were the next in importance. The least was recorded in Manipur (4.11). During 1956, also the same States recorded the highest death rates. The individual figures for rural and urban areas separately are somewhat scrappy. However, from the information that is available, it can be seen that in the urban areas the death rates are higher than in rural areas. The reason is perhaps that registration is more complete.

It is very necessary that the deaths should be recorded according to cause and age. But under the peculiar circumstances obtaining in India, where medical services are scanty, registration of deaths by cause cannot be complete nor reliable. The registration of deaths is, however, attempted for Cholera, Smallpox, Plague, Dysentery and Diarrhoea, Fevers and Respiratory diseases. The remaining ones are shown in one group. Some of the bigger Municipal Corporations, however, compile mortality statistics for a fairly large number of causes.

The age classification of deaths adopted is 0—1, 1—4, 5—9, 10—14, 15—19, 20—29, 30—39, 40—49, 50—59 and 60 and above. The percentages of deaths among the different age groups in India during the years 1956-57 are given in the table No. 5. Close scrutiny of the tables will reveal that the percentage of deaths among infants is of the same order as in the group over 60 years and above. Perhaps both these groups are equally sensitive to the health conditions in the country. Yet another important feature of the table is that during the years 0—14, nearly 50 per cent of deaths were accounted in both the years. This represents the wastage of potential youth of the country.

Table No. 4 shows the percentage of deaths during 1957 due to different causes in the States for which information is available. Plague was practically absent except in the States of Mysore and Uttar Pradesh. The percentage of deaths was almost negligible. Deaths due to Cholera constituted small percentages. In Bihar and Uttar Pradesh, the percentages were 3.7 and 2.9, Madhya Pradesh and West Bengal recorded percentages 1.8 and 1.6 respectively. Smallpox recorded higher percentages than Cholera in almost all the States except Bihar and Uttar Pradesh. The States where these percentages are markedly different than others, are Andhra Pradesh, Assam, Madhya Pradesh, Uttar Pradesh and West Bengal.

Fevers constituted the highest percentages in any State, percentages varying from 8.73 (West Bengal) to 80.41 (Bombay). The two States of Punjab and Uttar Pradesh recorded 60 per cent or more deaths due to fevers. Further in almost all the States, the group of respiratory diseases gave higher percentages than the group of Dysentery and Diarrhoea. Although the conclusions are based on the evidence presented in the table No. 4, they need to be corroborated by independent evidence for the reason of large inaccuracies in the registration system.

Among different specific age death rates, the ratio of mortality among infants is the most significant because it is very sensitive to the prevailing health conditions. The following table gives the Infant Mortality Rate in India and some other countries during the years 1953 to 1957:—

Year	India	United Kingdom	Japan	U.S.A.	Ceylon	Egypt	Burma
1953	118	27·6	48·9	27·8	71·2	148·5	223·9
1954	109	26·3	44·6	26·6	72·0	†	198·6
1955	100	25·7	39·8	26·5	71·5	†	177·6
1956	102	†	†	†	†	†	†
1957	98	†	†	†	†	†	†

†Not available.

During the year under review, the rate was 98 for the country as a whole. Needless to say that the available information (Table No. 5) with respect to different States is subject to varying degrees of under registration and are not strictly comparable. Comparison of the figures for the last five years displayed a decreasing tendency in many of the States and this tendency is unmistakable in the values for the country as a whole.

Table below shows the maternal mortality rates as registered during 1957 in different States:—

State	Maternal Mortality rate per 1,000 of live and still births			
	1954	1955	1956	1957
1. Andhra Pradesh	5·69	5·71	5·95	†
2. Assam	9·48	8·30	8·78	9·07
3. Bihar	†	1·26	†	2·90
4. Bombay	4·30	4·80	†	†
5. Kerala	†	†	2·90	2·96
6. Madhya Pradesh	3·11	3·88	4·80	2·17
7. Madras	†	4·27	4·97	†
8. Mysore	†	5·10	5·50	5·50*
9. Orissa	†	†	†	†
10. Punjab	1·09	1·15	1·20	0·72
11. Rajasthan	†	†	†	†
12. Uttar Pradesh	2·08	2·40	2·50	2·46
13. West Bengal	4·90	†	4·20	†
14. Jammu & Kashmir	†	†	†	†
Union Territories				
1. Andaman & Nicobar Islands	†	†	†	†
2. Delhi	†	†	†	†
3. Himachal Pradesh	†	†	†	†
4. Tripura	†	†	†	†
5. Manipur	†	†	†	†
6. Pondicherry	†	†	†	†

† Not available.

*Relates to the old Mysore State.

It can be seen from the available information that Punjab recorded the least while Assam the highest over all the years. The other States reporting fairly high rates were Andhra Pradesh, Madras, Mysore and West Bengal.

The extent of under registration in the figures given above cannot be assessed. Internal comparison is thus strictly not valid in view of the fact that under registration cannot be expected to be of the same order in all the States.

From what has been set-out above, it would be clear that the registration system in India being deficient, vital statistics are incomplete, inaccurate and difficult to interpret. Nor can the improvement in reliability of data be achieved in the immediate future.

CHAPTER II

GENERAL EPIDEMIOLOGY

Cholera:

Cholera is one of the notifiable diseases in all the States of India. Statistics of cases and deaths, although by no means quite accurate, are good enough for year-to-year comparisons for the same State. The disease is endemic in some parts of Assam, Bombay, Madras, Uttar Pradesh, West Bengal and Mysore States and the infection spreads from these endemic focii to neighbouring States. Geographical distribution of the disease and its seasonal occurrence appear to follow a set pattern. Incidence of the disease usually starts increasing in the months of March/April and after attaining its peak in July/August, goes on declining.

During the year under report 1.37 per cent of deaths registered in the country, as against 0.56 per cent during the previous year, were reported to be due to this disease and the death rate was 200 per million of population as against the quinquennial average of 150 for the period 1952—1956. The percentage of deaths and death rates in different States for 1956 and 1957 are shown in the Table No. 6.

From the Table No. 6, it will be observed that in comparison with 1956 increase in death rate due to this disease was reported in Andhra Pradesh, Bombay, Madras and Uttar Pradesh. Slight decreases were recorded in the States of Assam, Mysore, Orissa and West Bengal. The States of Punjab, Rajasthan and Kerala and the territories of Himachal Pradesh, Manipur, Tripura and Andaman and Nicobar Islands were free from the disease.

State-wise information presents the number of districts infected, cases and deaths notified, case fatality rate and the month of year when maximum incidence was reported, is given in the Table No. 7.

Andhra Pradesh—During the year under report, all the districts of the State were affected with Cholera. 11,146 cases were reported with 4,557 deaths which were more than double the number of deaths registered in 1956. All necessary preventive and control measures such as chlorination of drinking water supplies, disinfection of infected premises and articles, isolation and treatment of patients were undertaken by the health staff. Nearly 2 million inoculations were performed as against 2.0 million during 1956.

Assam—The State reported only 39 deaths as against 82 during the previous year while cases reported were only 252.

Bihar—During the year, Cholera was reported from 14 districts of the State. The districts of Gaya, Shahabad and Monghyr were severely affected. In all 13,525 cases and 5,683 deaths were reported. The percentage of deaths (3.7) was the highest among all other States and the death rate was 290 per million of population (*vide* Table No. 7). The incidence of Cholera was highest in the month of August, the number of attacks and deaths being 2,515 and 1,010 respectively.

Suitable measures were taken to check the spread of the disease to the other parts of the State. Temporary cholera regulations under the Epidemic Diseases Act, 1897 were also enforced in the affected districts. 12·2 million inoculations were performed as against 10.7 million during 1956.

Bombay—There was a fairly severe outbreak of Cholera in the State during 1957. The districts of Nagpur, Bhir, Aurangabad, Nanded, Osmanabad, Parbhani, Thana, Sholapur and Poona were severely affected. The districts of Ahmedabad, Banaskantha, Broach, Dangs, Gohilwad, Halar, Kutch, Zalawad and Chanda remained free from the disease. Sporadic cases were, however, reported from the remaining districts of the State. 7,086 deaths were reported as against 4,689 for 1956.

All preventive measures, such as, isolation and treatment of Cholera cases, mass anti-cholera inoculations and regular and repeated disinfection of water supplies in the affected and threatened areas were undertaken. Total number of anti-cholera inoculations performed was 5 million.

Madhya Pradesh—20 out of 38 districts of the State were affected with Cholera. 4,631 cases were registered out of which 2,235 were dead, resulting in the case fatality rate of 48.2. Vigorous anti-cholera measures were organised in advance of the expected danger.

Madras—Although there was a sharp increase in mortality due to cholera as compared with 1956, it was much less than the average for the period 1951-55. Cholera was responsible for only 0.3 per cent of deaths from all causes in 1957. Tanjore, Tiruchirapalli, Tirunelveli and the Madras city were the worst affected districts of the State and contributed as much as 75 per cent of the total mortality from Cholera.

Besides the usual routine preventive measures, the local public health staff and special Health Inspectors from the epidemic reserve were concentrated in the affected areas. Mobile Epidemic vans and jeeps were rushed to the affected areas with necessary equipment and materials. Anti-cholera inoculations of contacts and of vulnerable groups such as labourers, residents on the banks of rivers, slum dwellers etc. were promptly carried out in a systematic manner in all the affected areas. 2.4 million inoculations were done which were nearly three times the number for 1956.

Mysore—There was a small increase in mortality during the year 1957 as against 1956. 125 deaths were reported due to Cholera during 1957 as against 116 during the year 1956.

Orissa—During the year under report, the number of deaths due to the disease were significantly less than those for 1956. All the districts of the State except Mayurbhanj were affected with Cholera. The peak incidence of the disease was reported in August during the years 1956 and 1957.

Preventive measures such as anti-cholera inoculations were done during the year. Temporary regulations under the Epidemic Disease Act, 1897 making anti-cholera inoculations compulsory were enforced in the districts of Sambalpur, Dhenkanal, Cuttack, Koraput, Ganjam, Mayurbhanj and Puri.

Uttar Pradesh—The spread of the disease during the year under review was very extensive and 3,054 villages were affected in comparison with 586 during 1956, giving rise to higher incidence during 1957. There were 16,648 deaths as against 3,909 in the previous year. The highest incidence was returned in the month of August.

Mirzapur district was the first to report an out-break in epidemic form towards the end of January, 1957 in labour congregation at Jargee Dam site. Later on, the disease was reported in the first week of April, in Gorakhpur district. After lunar eclipse at Varanasi city in the middle of May, it spread to adjoining districts of Jaunpur, Muzaffarpur, Allahabad, and from there to the Central and Southern districts. Mass inoculations drives were undertaken in the affected districts. 7.5 million anti-cholera inoculations were performed. Nine rural hospitals with 97 beds were established temporarily during the epidemic period in six of the worst affected districts for treatment of Cholera and Gastro-enteritis.

West Bengal—As compared with the last year, the mortality due to Cholera was slightly higher during the year under review. 4,313 deaths were reported during 1957 as against 4,148 during 1956. As in the year 1956, the incidence was at its peak in the month of May.

Smallpox:

Smallpox is one of major diseases in India taking a heavy toll of life and is notifiable in all the States. During the year under report 1.5 per cent of deaths in the country were reported to be due to this disease. The death rate was 200 per million of population. The percentage of deaths and mortality rates in different States were as follows:—

State	Percentage of deaths due to Smallpox		Death rate per million of population	
	1957	1956	1957	1956
1. Andhra Pradesh	2·57	0·76	400	100
2. Assam	0·16	0·26	8	10
3. Bihar	1·87	†	100	†
4. Bombay	1·22	0·40	200	50
5. Kerala	0·42	0·30	40	20
6. Jammu & Kashmir	†	†	†	†
7. Madhya Pradesh	3·92	†	†	†
8. Madras	0·84	0·26	100	30
9. Mysore	1·65	0·63	200	50
10. Orissa	2·00	0·31	400	50
11. Punjab	0·08	0·07	10	6
12. Uttar Pradesh	1·24	1·00	100	90
13. West Bengal	3·50	0·54	400	40
14. Rajasthan	3·90	3·26	40	40
Union Territories—				
1. Andaman & Nicobar Islands	—	—	—	—
2. Himachal Pradesh	0·02	0·04	—	—
3. Delhi	†	†	†	†
4. Manipur	—	—	20	5
5. Tripura	—	0·24	†	100
6. Pondicherry	—	—	—	—

—Nil. † Not available.

It will be seen from the table that percentages of deaths in all States except Himachal Pradesh and Assam and the mortality rates were definitely more during the year in comparison with the previous year. West Bengal and Andhra Pradesh recorded 3.50 and 2.5 respectively as against 0.54 and 0.76.

The increase in the absolute number of deaths was noticed in all the States, except Assam and Himachal Pradesh. In West Bengal, the number of deaths recorded was nearly eight times the figures of the last year, while in Andhra Pradesh it was nearly double.

It is not possible to compare cases and deaths in the country as a whole with those of the previous year for the reason that the information was not available for the same States in both the years.

Vaccination against smallpox is known to be the most effective preventive measure. It has been practised for a fairly long time. Still much has to be done for the control of the disease. A large majority of cases of this disease occurs among infants and children. The question of complete primary vaccination is linked up with the complete registration of births. It is well known that appreciable percentage of births remains unregistered.

State-wise information giving the number of districts infected, the number of cases notified together with deaths, case fatality rates, the month of the year with maximum incidence is presented in the Table No. 8.

Andhra Pradesh—During the year under report cases were reported from all the districts. The total number of cases were 20,588 and the number of deaths were 4,573, resulting in the case fatality rate of 22 per cent nearly.

Range (r) of death rate per mille. of population in different districts was as follows: —

Range	Name of the Districts
$0{\cdot}01 \leqslant r < 0{\cdot}05$	Adilabad, East Godavari.
$0{\cdot}05 \leqslant r < 0{\cdot}1$	Nellore, Anantapur, Srikakulam and Chittoor.
$0{\cdot}1 \leqslant r < 0{\cdot}5$	Cuddapah, Kurnool, Guntur, Krishna, West Godavari, Warangal, Karimnagar, Hyderabad and Visakhapatnam.
$0{\cdot}5 \leqslant r < 1$ $r \leqslant 1$ 1	Khammam, Mahbubnagar, Medak, Nizamabad, Nalgonda.,

The smallpox infection which was prevalent during the year 1956 continued during 1957 and reached the peak during March 1957. The lowest ebb of the disease was in September and October. All preventive and control measures were carried out. Mass vaccinations, disinfection of infected premises and articles, isolation and treatment of the cases wherever possible, etc., were done by the health staff.

Assam—The total number of cases and deaths notified in the State were 551 and 67 respectively. The case fatality rate was 12 per cent nearly. The peak incidence of the disease was in November, and accounted for nearly half of the total number of cases reported.

As usual, necessary preventive measures were undertaken to prevent the disease to spread further.

Bihar—Out of 17 districts in the State, 15 districts were affected with Smallpox during 1957. In all, the disease was mild. 3,124 cases and 847 deaths were reported. The case fatality rate was 27 which was indeed a high figure. The incidence was found to be highest in the month of December, with 938 cases. Incidence of mortality in the age group 0—10 years was nearly 31 per cent of the total number of deaths. And, children in the age-group 1—10 years of age was nearly double these among infants.

During the year under report 1.6 million primary and 7.7 million re-vaccinations were performed in the State.

Bombay—All the districts were more or less affected. Although the disease persisted throughout, it did not, however, reach epidemic proportion anywhere in the State.

Information is not available in regard to cases. 9,389 deaths were recorded and its regional breakup was as follows: —

Ex-Bombay State—5,170.
Vidarbha—2,666.
Marathwada—1,194.
Saurashtra—359.

It should be mentioned here that the programme of vaccination was re-organised in the old Bombay State. Nine months of the year were confined to primary vaccinations and three months to re-vaccination. The re-organised programme was being extended to other parts which were merged into the present Bombay State. During the year under report, 1.2 million primary vaccinations and 5.2 million re-vaccinations were performed.

Kerala—Smallpox is endemic in the State of Kerala. During 1957, all the eight districts were affected by the disease, with 1,601 attacks and 601 deaths. The percentage of deaths due to smallpox among total deaths was 0.42.

33 per cent of the total deaths due to this disease occurred in the age-group 0—10 years.

Preventive as well as relief measures were undertaken. Vaccination on a campaign basis was adopted in areas affected by the disease. A total of 7.0 lakhs primary vaccinations with 2.8 million re-vaccination were performed during the year. As high as 99 per cent successful among primary and 66 per cent among re-vaccinations were reported.

Madhya Pradesh—Out of 43 medical districts 32 were affected by Smallpox. A total of 5,266 cases were reported with 4,766 deaths, resulting in a case fatality rate of 90 per cent nearly. Deaths due to this disease constituted 4 per cent of total deaths in the State. The highest incidence was found to be in December.

In addition to intensive vaccination and re-vaccinations, special vaccination weeks were celebrated just before the Smallpox season in order to raise consciousness of people of the impending epidemic.

Deaths among children in the age group 0—10 years, constituted 38 per cent of the total deaths.

Madras—11,427 cases were notified in the State with 3,893 deaths. Study of the trend in mortality due to the disease reveals that it was on the decline during the period 1951—1956 and that during 1957 it was more, the reasons for which is probably the periodic cycle of Smallpox epidemic.

The districts that were severely affected were Salem, South Arcot, Tanjore, Tiruchirappalli and the Madras city. All these together accounted for nearly 60 per cent of the total deaths.

A systematic campaign for vaccination and re-vaccination was organised wherever possible. *Dhobies* were effectively controlled from being a source for spread of infection. Isolation of cases in isolation sheds and hospitals or home segregation and education of the public were the other measures adopted. 1.1 million primary and 5.6 million re-vaccinations were performed during the year under report.

It may be pointed out in this connection that the scheme of mass immunisation by re-vaccinating one-tenth of the population in each district, was continued during the year under review.

Mysore—A total of 1,606 deaths was registered during the year resulting in a specific death rate 14.6 per mille of population. Information on the number of cases and on other ancillary items is not available. 7.3 lakhs of primary vaccinations and 2.3 million of re-vaccinations were done during the year as against 4.0 lakhs and 8.1 lakhs respectively.

Orissa—Smallpox is endemic in most of the districts of the State. But, the disease is not notifiable except in the rural areas of the Ganjam plains where smallpox is notifiable under the Madras Local Boards Act.

The disease is declared notifiable under the Epidemic Diseases Act, 1897, as and when necessary.

During the year under report 11,478 attacks and 3,162 deaths were recorded from over all the 13 districts of the State. The percentage of deaths due to this disease was 1.20. The number of children in the age-group 0—10 years who succumbed to the disease were 63 per cent of the total number of deaths.

The monthly incidences were higher throughout the year in comparison with corresponding months of 1956. In regard to preventive measures temporary regulations were in force in 7 districts making vaccinations compulsory. In all, 23 lakhs of vaccinations were performed. To meet the demand vaccine lymph was brought from King's Institute, Guindy, Madras.

It was proposed to provide mass protection to 1/5th of the vulnerable population in each district. A mass vaccination scheme was sanctioned and could not be put through for the reason that the vaccinators appointed were engaged in control of Smallpox epidemic during the year under review.

Punjab—1,192 cases were notified with 199 deaths during the year under review. Although in comparison with the previous year the incidence was higher, the disease showed definite declining trend during the period 1948—57.

The smallpox death rate was 0.01 per mille. 126 deaths were recorded in the rural areas and 73 in the urban areas. The maximum incidence of the disease was in May, and the lowest in September. 150 deaths were recorded in the age-group 0—10 and only 49 were reported in the age-group 10 years and over.

Anti-smallpox measures were extensively undertaken. Epidemic Diseases Act, 1897 was applied in respect of smallpox to the whole of the State. Grants-in-Aid were given to several local bodies for combating epidemic diseases.

Rajasthan—25 Districts out of 26 and 787 villages and towns were affected by smallpox. In all 4,801 cases with 1,471 deaths were recorded resulting in a case fatality rate of 31 per cent nearly. The death rate was 8.5 for the State as a whole.

As in the previous year, the incidence of disease was the highest in March, 5.2 lakhs of primary and 5.9 lakhs re-vaccinations were performed during the year under review.

Uttar Pradesh—7,103 deaths were registered during the year under review as against 5,742 of the previous year. The deaths due to this disease constituted 1.24 per cent of the total number of deaths. Prevalence was comparatively higher in the districts of Agra, Allahabad, Budaun, Deoria, Faizabad, Ghazipur, Hamirpur, Jalaun, Kanpur and Varanasi. 3,760 deaths constituting more than 50 per cent, were in the age-group 1—10 years. Peak incidence was in the month of June. 1.9 million primary vaccinations and 2.1 million re-vaccinations were reported. The percentage of successful primary vaccinations during the year was known to be 98 per cent. Proper arrangements for medical relief and sanitation were made with adequate staff located at all the places necessary.

West Bengal—Much information is not available from the State. The number of deaths recorded in the State was 9,377 as against 1,185 during the previous year. 1.6 millions primary and 11.1 millions re-vaccinations were performed during the year.

Andaman and Nicobar Islands—There were no cases of smallpox in the territory.

Himachal Pradesh—Four districts, i.e., Bilaspur, Chamba, Mahasu, and Sirmur were affected. There were 19 cases and 2 deaths.

It can thus be seen that the incidence was only sporadic and as a matter of fact infection was imported from the neighbouring States. Timely preventive action was taken. Epidemic Diseases Act, 1897 was enforced and necessary number of vaccinators were deputed to the affected areas.

In all 38,274 primary vaccinations and 116,165 re-vaccinations were performed during the year under review. Percentage of successful among primary vaccinations was 92 per cent and among re-vaccinations 69 per cent were successful.

Manipur—Smallpox is not endemic in the State. The disease was imported from the neighbouring States and there were 44 attacks with 9 deaths during the year under report. In the age-group 1—10 years 6 deaths were reported.

In December, the peak incidence was notified with 20 attacks with 3 deaths. In comparison with the last year, the case fatality rate was less.

33,408 primary vaccinations and 44,423 re-vaccinations were conducted during the year. The percentage of successful vaccinations was very low and they were 71 and 51 per cent among primary and re-vaccinations respectively.

Pondicherry—There was no incidence of smallpox in the territory.

Plague:

The mortality due to Plague was markedly less in 1957 in comparison with 1956. For the country as a whole, the number of deaths reported were 97 during the year under report as against 198 during 1956. The States in which incidence occurred were Assam, Madras, the erstwhile State of Mysore and Uttar Pradesh. The remaining States were completely free from the disease.

Mysore State recorded 43 deaths and 8 districts out of 19 were affected. The specific death rate was 0.4. The number of deaths in Uttar Pradesh were 48 in all, 2 in urban and 46 in rural areas as against 94 deaths during

1956. Bahraich district registered the highest number of deaths, *i.e.,* 42. The percentage of deaths due to Plague to total deaths was 0.01 per cent. The number of villages affected were 6 in all.

Assam recorded 5 cases in all with no death. Only one district, United Khasi and Jaintia Hills was affected during November by the disease. 6,200 houses were sprayed and 6,975 inoculations were performed.

Madras was free from Plague for a period of 22 months since 1956. However, in December, 1957, one village of the Husur Taluka in Salem district was affected. 4 attacks and one death were recorded. 1,027 anti-plague inoculations were conducted and the infection was brought under control. A Rat Flea Survey conducted in the infected village showed a low flea index. Apart from these, the programme of off-season anti-plague measures were continued and all the endemic villages were treated with D.D.T. regularly once during the year. Other measures, *viz.,* insuffocation of rat burrows and dusting other rat harbourages were continued, as before.

Malaria:

Malaria has been one of the most important public health problems in the country. It was widely spread and took a considerable toll of human lives and caused great economic loss to the country and untold suffering among human beings. Among communicable diseases malaria received top priority in the Health Schemes under the First and Second Five Year Plans. National Malaria Control Programme started during the course of the First Five Year Plan and by the year 1957 made a tremendous impact on malaria incidence in the country.

Statistics regarding the incidence of Malaria were not recorded separately as such and were usually included under the group of diseases 'FEVERS'. Although some States like Andhra Pradesh, Uttar Pradesh and Punjab record these statistics separately, their reliability is questionable.

The available information with regard to Malaria mortality and its relation to deaths from all fevers is given in Table No. 9. A brief discussion of the situation in the individual States is given in the following paragraphs:—

Andhra Pradesh—Malaria was not a notifiable disease in the State. Consequently the magnitude of the incidence cannot be arrived at. The disease assumed epidemic proportions in central districts, particularly in Rayalaseema. The number of deaths (as shown in table No. 9) were 10,528 and this constituted nearly 8 per cent of total deaths due to fevers. The incidence in the State can be seen to be higher than during 1956.

There were in all 9 National Malaria Control Programme Units functioning in the State. These afforded protection to a population of about 50 lakhs during 1957-58.

Assam—The disease was not notifiable in the State. It was spread over all districts. The number of cases and deaths was 74,613 and 5,797 respectively. The percentage of deaths from Malaria to deaths due to all fevers was as high as about 25 per cent.

The number of units conducting anti-malaria operations were 13. During 1957-58, a population of about 19 lakhs were protected by DDT spraying.

Bihar—Malaria was not a notifiable disease in the State. It prevailed in all the districts, but data regarding total incidence were not available. The months showing peak incidence were September and October. There were 20 malaria control units in 1957-58. These afforded protection to an estimated population of about 231 lakhs.

Bombay—During the year under review 61,178 deaths were due to Malaria as against 72,687 in 1956. The region-wise distribution was as follows: —

	Deaths	Death-rate
Ex-Bombay	13,325	0·44
Vidarbha	42,479	5·30
Marathwada	3,305	0·79
Saurashtra	69	0·01

It may be pointed out that 24.5 National Malaria Control Units in the rural and small urban areas and 4 units in municipal areas having more than 40,000 population were functioning in the State. These units afforded protection to a population of about 333 lakhs during 1957-58.

Jammu and Kashmir—The statistics regarding malaria incidence and deaths were not available for 1957. Under the National Malaria Control Programme, one unit functioned and afforded protection to population of about 5 lakhs during 1957-58.

Kerala—Although Malaria was a notifiable disease in the State, the total incidence of malaria in the population was not available. The number of patients treated for malaria in hospitals during the year was 15,259. The number of National Malaria Control Programme units was 2½ and these afforded protection to a population of about 19 lakhs during 1957-58.

Madhya Pradesh—Malaria is a notifiable disease in the State. During the year under report almost all the districts were affected by malaria and 256,114 cases were reported over the entire State. The actual incidence, however, was likely to be much higher. To control the disease, 22 units were functioning in the State. These afforded protection to a population of about 187 lakhs during 1957-58.

Madras—The disease is notifiable in the State. Comparison of the death rates calculated per 1,000 estimated population reveal that during the period 1951—1957, there was gradual decline in the number of deaths and in fact, during 1957, the percentage of deaths due to malaria constituted only 0.2 per cent of the total number. In absolute term, 958 deaths were reported as against 1,603 during 1956.

A Bureau of Malariology at the State level and two Regional Malaria Organisations have been functioning on permanent footing for direction and supervision of measures to control malaria and mosquito-borne disease. 19 anti-malaria schemes were in operation during the year under report, covering a population of 3 millions. Under the National Malaria Control Programme, 2.70 units were functioning and these afforded protection to a population of about 22 lakhs, during 1957-58.

Mysore—Number of deaths from fevers and malaria during 1957 have not been reported. Under the National Malaria Control Programme, 14.63 units functioned and afforded protection to an estimated population of about 119 lakhs during 1957-58.

Orissa—Deaths from malaria have not been reported by the State. Under the National Malaria Control Programme, 10.50 units functioned and afforded protection to an estimated population of about 101 lakhs during 1957-58.

Punjab—1,487 deaths due to malaria were recorded during the year. These accounted for 1 per cent of the total deaths due to fevers.

Nine malaria control programme units were functioning in the State. The spray operations were undertaken by all the units and afforded protection to an estimated population of about 68 lakhs. In the Central Malaria Laboratory at Karnal, experiments on the behaviour, determination of hibernation period and development of resistance against insecticides were carried out on both mosquitoes and flies.

Rajasthan—The disease is not notifiable in the State. Statistics of incidence in the general population was not available. But as seen from the figures from State institutions, the number was 966,047 (1,412 deaths due to malaria were recorded in the State during 1957), and the percentage of deaths from malaria to total deaths was 7.2. Under the National Malaria Control Programme, 8.67 units worked in Rajasthan during 1957-58 and afforded protection to an estimated population of about 32 lakhs.

Uttar Pradesh—The number of deaths due to Malaria during the year under report were 56,541 as against 76,178 during previous years. Epidemic of Malaria was reported from the districts of Aligarh, Bulandshahr and Meerut following abnormally heavy rains and water-logging. Necessary preventive measures were taken. Over 41 lakhs anti-malaria tablets were distributed free of cost to persons suffering from the disease in these areas.

Under the National Malaria Control Programme, 20 units were operating during the year 1957-58. These units afforded protection to an estimated population of about 189 lakhs.

West Bengal—Statistics of malaria incidence and deaths were not available for 1957. Under the National Malaria Control Programme, 23 units functioned during 1957-58 and afforded protection to a population of about 229 lakhs.

Andaman and Nicobar Islands—The disease is not notifiable in the territory. The number of deaths due to Malaria was 9 among a total of 35 deaths from all fevers including malaria. One Malaria-cum-Filaria unit was functioning in the territory. 12,844 houses were sprayed during the year under review.

Delhi—Statistics regarding malaria incidence and deaths were not available for 1957. Under the National Malaria Control Programme, 2 units were functioning during 1957-58 and these afforded protection to an estimated population of about 8 lakhs.

Himachal Pradesh—Malaria is not notifiable in the State. Barring areas below 6,000 feet, the other areas are free from the disease. No figures of cases and deaths from Malaria were available. Under the National Malaria Control Programme, 1·25 units functioned during 1957-58 and afforded protection to an estimated population of about 9 lakhs.

Manipur—The number of cases and deaths from malaria in the territory were 37,686 and 65 respectively. The disease was found highest during the period May to August.

Under the National Malaria Control Programme 2 units functioned during 1957-58 and afforded protection to an estimated population of about 6 lakhs.

NEFA—Statistics regarding malaria incidence and deaths were not available for 1957. The National Malaria Control Programme was initiated during 1957-58 with 0.25 units. This afforded protection to an estimated population of about 1 lakh.

Pondicherry—Except for some rare cases, Pondicherry was free from this disease. 0.01 per cent of the population was affected. The number of cases and deaths from the disease were 485 and 9 respectively. No anti-malaria unit was functioning in the territory.

Tripura—Statistics regarding malaria incidence and deaths were not available for 1957. Under the National Malaria Control Programme, one unit functioned and afforded protection to an estimated population of about 8 lakhs during 1957-58.

Dysentery and Diarrhoea:

This group of diseases is one of the most important in the country. The percentage of deaths to total deaths from different causes range from 0.67 in Bihar to 11.04 in Mysore. In the States of Mysore, Assam, Kerala, Himachal Pradesh, Andhra Pradesh and Bombay, the percentages of deaths due to this group were quite high. Only Punjab recorded comparatively a small percentage. The table No. 10 gives the percentage of deaths due to the group and death rates per mille.

It may be noticed that in no State except Andhra Pradesh, there is consistent decline in percentages. The individual position in respect of some States is given below: —

Andhra Pradesh—A total of 15,898 deaths were recorded with death rate 0.49 per mille. The rural areas recorded 13,140 deaths which was far higher indeed in relation to urban areas. Evidently the reason is lack of protected water supply.

Assam—The death rate per mille came to 0.32 in the year under review as compared to 0.37 per mille in the previous year.

Bombay—There were 36,530 deaths due to the above diseases as against 33,982 in 1956. The deaths mostly occurred in the regions of the erstwhile Bombay State and Vidarbha region.

Kerala—The total number of deaths due to these diseases was 9,768.

Madras—The death rate during 1957 was estimated to be 1.09 as against 1.02 during 1956. The percentage of deaths due to these diseases was 8 per cent. The number of deaths in the rural and urban areas were respectively 21,387 and 14,014. It is interesting to note that the Madras city alone was responsible for two-thirds of total mortality in all the municipal towns.

Mysore—The total number of deaths was 10,702 and the specific death rate was estimated at 27.0, Malaria and other fevers (excluding Typhoid) being the other groups which exceed this death rate.

Rajasthan—As seen from the hospital records, the number of cases in Rajasthan was as many as 319,129 with only 112 deaths.

Himachal Pradesh—The number of deaths was 579 out of cases 45,023. The disease is common in the territory due to lack of adequate protected water and unsatisfactory disposal of refusal.

OTHER NOTIFIABLE DISEASES

A list of diseases notifiable in different States in India is attached.

It is well known that the registration of deaths is not recorded by definite cause of mortality for lack of proper diagnostic facilities. They are only recorded for some broad groups and by diseases of Cholera, Smallpox and Plague. They serve to indicate the magnitude of diseases included in the group rather than provide the morbidity in respect of them.

Respiratory Diseases:

Diseases of the respiratory system include T.B., Pneumonia, Bronchitis and Phthisis. The following table shows the percentage of deaths due to these groups. Figures reveal that these diseases are important and take a heavy toll of life, the percentage varying from 0.95 in Bihar to 15.20 in Punjab:—

Percentage of deaths due to Respiratory diseases to total deaths in various States in India during 1957

State	Percentage
1. Andhra Pradesh	6·30
2. Assam	†
3. Bihar	0·93
4. Bombay	†
5. Jammu and Kashmir	†
6. Kerala	9·86
7. Madhya Pradesh	6·62
8. Madras	10·19
9. Mysore	6·03
10. Orissa	4·60
11. Punjab	15·20
12. Rajasthan	†
13. Uttar Pradesh	7·95
14. West Bengal	†
Union Territories—	
1. Andaman & Nicobar Islands	†
2. Delhi	†
3. Himachal Pradesh	12·09
4. Tripura	†
5. Manipur	†
6. Pondicherry	†

† Not available.

T.B. is perhaps the most important disease in the group and this has attracted recently wide attention from health authorities.

During the year under report Punjab (15.20) and Himachal Pradesh (13.09) recorded the highest percentages, followed by Madras (10.19) and Kerala (9.86).

Typhus:

Typhus is one of the notifiable diseases according to international conventions. Information from several States is not available, may be, due to lack of diagnostic facilities, and general apathy of the public to notify infectious diseases. The available information reveal that Uttar Pradesh and Assam recorded 2,155 and 148 deaths respectively. The States of Punjab and Himachal Pradesh were free from the disease.

Enteric Fever:

Information on Enteric fever is available in some States. Assam, Bombay and Punjab recorded 295, 4,678 and 2,419 deaths respectively during the year under review. For certain other States information is available from municipalities. In Andhra Pradesh, the number of deaths recorded was 412, while the number of cases was 20,627, while in Madras 707 deaths were recorded in municipal areas.

Kala-azar:

Due to Kala-azar, the number of deaths in Uttar Pradesh and Assam were respectively 1,062 and 162. Punjab and Himachal Pradesh were free from the disease.

Cerebrospinal Fever:

In relation to other diseases, the incidence of cerebrospinal fever in the country is low. Whatever cases are reported, are generally from urban areas. From the available information it can be seen that Uttar Pradesh, Bombay and Assam recorded 494, 136 and 49 deaths respectively.

LIST OF NOTIFIABLE DISEASES

State	Diseases Notifiable (1957)
1. Andhra Pradesh	1. Cerebrospinal fever, 2. Chickenpox, 3. Cholera, 4. Diphtheria, 5. Leprosy, 6. Measles, 7. Plague, 8. Rabies, 9. Scarlet fever, 10. Smallpox, 11. Typhus, and 12. Influenza.
2. Assam	1. Tuberculosis, 2. Diphtheria, 3. Enteric-group of fevers, 4. Cerebrospinal meningitis, 5. Yellow fever, 6. Infantile Paralysis, 7. Meningococal meningitis, 8. Cholera, 9. Plague, 10. Smallpox, 11. Kala-azar, 12. Leprosy, 13. Typhus and 14. Influenza.
3. Bihar	1. Cholera, 2. Smallpox, 3. Plague, 4. T.B. and 5. Influenza.
4. Bombay	*In Rural areas*—1. Cholera, 2. Smallpox, 3. Plague and 4. Yellow fever. *In Urban areas*—1. Cholera, 2. Smallpox, 3. Plague, 4. Cerebrospinal fever, 5. Acute infection, 6. Gastro-enteritis, 7. Enteric fever, 8. Leprosy, 9. Poliomyelitis, 10. Typhus, 11. T.B., 12. Measles, 13. Relapsing fever, 14. Kala-azar, 15. Influenza, 16. Pneumonia, 17. Yellow fever and 18. Chickenpox.
5. Madhya Pradesh	1. Acute Poliomyelitis, 2. Anthrax, 3. Cerebrospinal fever, 4. Chickenpox, 5. Cholera, 6. Diphtheria, 7. Dysentery (Amoebic and Bacillary), 8. Enteric group of fevers viz., Paratyphoid, ABE fever, 9. Encephalitis letharagies, 10. Epidemic pneumonia, 11. Influenza, 12. Leprosy, 13. Measles, 14. Mumps, 15. Puerperal fever, 16. Plague, 17. Relapsing fever, 18. Scarlet fever, 19. Smallpox, 20. T.B., 21. Typhus, 22. Whooping Cough, 23. Virus-encephalitis and 24. Infective nephritis.
6 Kerala	1. Anthrax, 2. Chickenpox, 2. Cholera, 4. Diphtheria, 5. Enteric Fever, 6. Malaria, 7. Measles, 8. Mumps, 9. Plague, 10. Rabies, 11. Smallpox, 12. Tuberculosis, (Infective type), 13. Whooping cough and 14. Influenza.
7. Madras	1. Cerebrospinal fever, 2. Chickenpox, 3. Cholera, 4. Diphtheria, 5. Leprosy, 6. Measles, 7. Plague, 8. Rabies, 9. Scarlet fever, 10. Smallpox, 11. Typhus, 12. Poliomyelitis, 13. Enteric fever or Typhoid, 14. Yellow fever, 15. Tuberculosis 16. Infective Hepatitis and 17. Influenza.

1	2
8. **Mysore**	1. Diseases notifiable under the Mysore Public Health Act—1941. 1. Cerebrospinal fever, 2. Chickenpox, 3. Diphtheria, 4. Leprosy 5. Measles, 6. Plague, 7. Rabies, 8. Scarlet fever, 9. Smallpox, 10. Typhus, 11. Tuberculosis, 12. Enteric fever, 13. Yellow fever, 14. Cholera, 15. Relapsing fever and 16. Influenza. 2. Diseases notifiable under the City Municipalities Act— 1. Anthrax, 2. Chickenpox, 3. Cholera, 4. Diphtheria, 5. Enteric fever, 6. Leprosy, 7. Measles, 8. Plague, 9. Pulmonary Tuberculosis, 10. Rabies, 11. Smallpox and 12. Influenza.
9. Orissa	1. North Orissa Municipalities— 1. Smallpox, 2. Cholera, 3. Plague, 4. Tuberculosis and 5. Influenza. 2. South Orissa Municipalities — 1. Acute Influenzal pneumonia, 2. Anthrax, 3. Chickenpox, 3. Cholera, 5. Diphtheria, 6. Enteric fever, 7. Glanders, 8. Leprosy, 9. Plague, 10. Smallpox, 11. T.B., 12. Typhoid fever, 13. Influenza, 14. Relapsing fever and 15. Rabies.
10. **Punjab**	1. Cholera, 2. Smallpox, 3. Plague, 4. Measles, 5. Chickenpox, 6. Diphtheria, 7. Tuberculosis, (including tubercle of lungs), 8. Scarlet fever, 9. Typhus fever, 10. Enteric fever, 11. Erysipelas, 12. Relapsing fever, 13. Influenza, 14. Purperal fever, 15. C.S. Meningitis, 16. Dysentery, 17. Leprosy, 18. Mumps, 19. Whooping cough, 20. Sprue. 21. Yellow fever, and 22. Acute Poliomyelitis.
11. **Rajasthan**	Not notifiable under any statutory provisions except in Ajmer. 1. Yellow fever, 2. Plague, 3. Cholera, 4. Typhus, 5. Relapsing fever, 6. Cerebrospinal, 7. T.B., 8. Influenza, 9. Smallpox, 10. Enteric fever, 11. Diphtheria, 12 Anthrax and 13. Encephalitis.
12. **Uttar Pradesh**	1. Cholera, 2. Smallpox, 3. Plague, 4. Scarlet-fever, 5. Diphtheria, 6. Measles, 7. Enteric fever, 8. Pulmonary T.B., 9. Yellow fever, 10. Cerebrospinal meningitis, 11. Typhus, 12. Relapsing fever, 13. Epidemic Dropsy, 14. Acute Poliomyelitis. 15. Gastroenteritis and 16. Influenza.
13. **West Bengal**	1. List of Notifiable diseases under the Calcutta Municipal Act, 1951— 1. Cholera, 2. Plague, 3. Smallpox, 4. Cerebrospinal Meningitis, 5. Diphtheria, 6. Tuberculosis, 7. Leprosy, 8. Syphilis and 9. Influenza. 1. Anthrax, 2. Chickenpox, 3. Dysentery (both bacillary and amoebic), 4. Enteric group of fevers, 5. Leprosy, 6. Measless 7. Relapsing fever, 8. Tuberculosis, (of all forms), 9. Typhus, 10. Whooping cough, all. Epidemic Dropsy, 12. Cholera, 13. Plague, 14. Smallpox, 15. Cerebrospinal meningitis, 16. Diphtheria, 17. Yellow fever and 18. Influenza.
14. **Andaman & Nicobar Islands.**	No regulation for notification of diseases exists in these Islands as the infectious diseases in these islands are absent.
15. **Delhi**	1. Cholera, 2. Smallpox, 3. Plague, 4. Diphtheria, 5. Whooping Cough, 6. Tuberculosis (all kinds), 7. Dysentery (Amoebic and Bacillary), 8. Enteric fever and its allied fevers, 9. Cerebrospinal fever, 10. Purperal fever, 11. Measles, 12. Typhus fever, 13. Influenza, 14. Chickenpox, 15. Leprosy, 16. Relapsing fever, 17. Epidemic Flu, 18. Poliomyelitis, 19. Virus Encephalitis, 20. Infective Hepatitis, 21. Mumps and 22. Erysipelas,

1	2
16. Himachal Pradesh ..	.. 1. A proposal for notifying certain diseases has been submitted for approval to the Himachal Pradesh Government.
17. Manipur ..	.. 1. Cholera, 2. Smallpox, 3. Cerebrospinal fever, 4. Leprosy and 5. Influenza.
18. Tripura ..	.. 1. Cholera, 2. Plague, 3. Smallpox, 4. Typhus and 5. Influenza.

Influenza:

During the year under report, the epidemic of Influenza hit the whole country and spread like wild fire to all parts of the country.

The disease made its beginning in Madras and Calcutta simultaneously. From Madras the disease spread south, to Mysore by the end of May and Kerala and Andhra Pradesh by the middle of June. From Calcutta, the disease spread north and west. Assam, Orissa, Bihar, Uttar Pradesh and Punjab were affected by the middle of June. The decline at the all-India level started from the week ending 17th August 1957 and gradually the disease abated. The period of heavy incidence of the disease was from the week ending 15th June 1957 to 10th August 1957. The incidence during this period varied from 2.5 lakhs to 5.0 lakhs of cases.

Table No. 11 shows the number of cases and deaths due to Influenza in individual States. The total number of cases reported were 4,467,762 in the country and the number of deaths were only 2,185. Deaths per million of cases were 489 and mortality rate per million of population was 5.6 nearly. The mortality during 1918 epidemic was 6.8 million, which highlights the relatively insignificant mortality caused during 1957. The table also gives the mortality rate per million of population. Bombay, West Bengal and Delhi recorded the highest mortality rates 26.12, 15.53 and 8.49 respectively. Himachal Pradesh, Mysore and Madras were next in order of importance, reporting 3.51, 3.22 and 2.29 respectively. The least figure was recorded in Rajasthan.

Information on the incidence of the disease in different age groups is not available. However, age distribution for 6,220 patients at the Lawley Hospital, Coonoor, during the months of May, June and July, 1957 was studied. The highest incidence was in the age-group of 0—5, constituting 18.7 per cent. The percentage in the age group of 0—25 was as high as 73.0, while in the groups 30—50 and 50 and above, it was 24 and 3 per cent respectively. It may be remembered that study was only in relation to one hospital. Consequently nothing definite can be told on all-India basis.

The position in some individual States as far as information is available is described below:—

Andhra Pradesh—The epidemic of influenza made its beginning in the last week of May and reached its peak during the week ending 29th June 1957 and continued till July 1957. A total number of 244,982 cases of varying intensity were reported of which only 28 cases proved fatal. The infection was only mild and consequently also due to precautionary measures adopted, the death rate was small.

Many precautionary measures were strictly enforced. The disease was declared notifiable under the Madras Public Health Act and Hyderabad Infectious Diseases Act. Conditions of license regarding prevention of overcrowding were enforced, Propaganda among the public about the steps to be taken for preventing the disease was intensified. And, special treatment centres, mobile medical units and arrangements for treatment at hospitals and dispensaries were made. Disinfection of premises and articles were thoroughly carried out. Special measures were made to attend to Flu cases at the time of "Krishna Pushakaram" which took place during the month of June 1957.

Bihar—The disease started in Banka in the Bhagalpur district during the first week of May. 155,146 cases and 18 deaths were reported. Case fatality rate per million of cases was 116.02 which was very high.

Usual preventive measures were undertaken such as reservation of beds in hospitals, closure of cinema halls. Mobile units were also started in urban areas to give free treatment.

Bombay—During the last week of May, Influenza started its course and spread throughout the State. There were, in all 1,282,459 cases of which 1,408 proved fatal. The case fatality rate was of the order of 0.1 per cent.

The State Government applied temporary influenza regulations to all the districts of the State and special powers were accorded for carrying out stringent measures.

All the local bodies maintained adequate stock of medicines and *ad-hoc* arrangements were made for treatment of patients. Cases were also treated by touring staff specially provided for the purpose with a van and necessary drugs and medicines.

Jammu and Kashmir—During the epidemic a total number of 1,963 cases were reported. A temporary isolation Hospital was started at Jammu and the other hospital at Srinagar and was equipped fully for treatment of diseases.

Kerala—The disease was first reported in the State during the last week of May. The infection spread from the Madras State first to towns in daily communication by rail with Madras. All districts were simultaneously affected and consequently, the duration of the epidemic in all of them was more or less seventy days.

The total number of cases reported were 289,265 with 9 deaths. As in other States, necessary preventive measures such as closure of cinema halls and schools for different periods, restrictions on overcrowding, were undertaken. Mobile teams were organised for the purpose at each district headquarters ready to move to the affected areas for dealing with local epidemics. Finances were also provided to each district Medical Officer to buy medicines locally if necessary.

Madras—The epidemic started in the Madras city in the middle of May and spread therefrom to other parts of the State. Practically, all the districts of the State were infected in the month of June. The peak incidence was during the week ending 13th July 1957. The decline began in the last week of June and by the middle of July, only sporadic cases were reported.

In all 610,262 cases were recorded and the number of deaths were 75. Preventive measures were extensively taken. The disease was declared notifiable throughout the State. In the city proper, all hotel and lodging houses were inspected and all those infected were isolated. Other measures by way of increased bed accommodation, appointment of suitable number of doctors at dispensaries, and free distribution of medicines, restrictions on overcrowding in cinema halls were actively undertaken.

Mysore—The disease made its beginning on the 27th May in the Bangalore city. It rapidly spread to all the districts. Throughout, the disease was of mild nature. Bangalore, Kolar and Hassan districts were affected considerably.

There were in all 416,275 cases with 70 deaths only. The case fatality rate per million cases was 168.16 and mortality per million of population was 3.22 nearly.

Enough precautions were taken in hand, even before the disease reached the State. It was declared notifiable, on intimation of a warning from the Central Government of the impending Influenza. A symposium was arranged and several medical personnel participated in it. Following this, when the disease was on the rise, cinema and schools were closed. Enough medicines were kept in stock for treatment of patients and funds were provided.

Madhya Pradesh—The first case of the disease was reported from the last week of May and in the month of June, all the districts were affected. The disease almost abated in early August, with sporadic cases reported from some districts.

Total number of cases were 245,471 with only 13 deaths. The case fatality rate was 53 per million cases. It was likely that most of these deaths were due to pulmonary complications.

Reservation of beds was made in the existing hospitals. New hospitals and isolation wards were also opened and school buildings were generally utilised for this purpose.

Madhya Pradesh Emergency Influenza Regulation, 1957 were promulgated declaring Influenza as a notifiable disease empowering local authorities to take effective measures for control of the disease. Prior to enforcement of regulations Section 144 Cr.P.C. was enforced in some districts.

For patients in rural areas beds were reserved in the mofussal hospitals and arrangements were also made for transportation of patients to district hospitals from neighbouring villages. Medicines were distributed to Block Development Officers and village level workers for distribution. Mobile dispensaries with health staff and drugs toured the affected villages and rendered treatment.

Orissa—The news of the first occurrence of the disease came from village Bhubanpur, District Puri on 19th May 1957. By the third week of July 1957, the disease spread to all the districts of the State, when maximum incidence of 27,142 cases and 2 deaths were reported in the State.

In all 151,401 cases and 12 deaths were recorded during the year under report from the State.

On receipt of intimation from the Director General of Health Services, the State Health Authorities instructed all the Civil Surgeons, District Health Officers and Municipal Health Officers to take all preventive measures against the spread of the disease. The disease was declared notifiable under the Epidemic Diseases Act, 1897. The State Government also sanctioned a special grant of Rs. 10,000 for the purchase of anti-influenza drugs and disinfectants. 1,63,000 anti-influenza tablets were supplied to the Civil Surgeons, District Health Officers and Municipal Health Officers for the treatment of cases. Arrangements were also made for the treatment of cases, in hospitals and dispensaries. Two mobile treatment units were established at Puri and Berhampur towns to render medical aid to patients in the locality. Press notes and folders on Influenza "How to prevent" were distributed among all the Civil Surgeons, District Health Officers, Municipal Health Officers for the circulation and publicity among the general public.

Arrangements were made to stop cinema shows and the large congregations of people which are held on religious grounds. The reopening of the educational institutions after summer vacations were postponed upto the 15th July 1957.

As a result of the intensive preventive measures taken by the Department, the disease was brought under control.

Punjab—Starting from Madras and Calcutta, the epidemic reached the State on the first of June, the first case occurred in Ambala town and thereafter the disease spread to all the other districts. Epidemic Diseases Act, 1897 was enforced in the State. In all, 120,805 cases and 9 deaths occurred in the State during the year under review.

All possible preventive and curative measures were adopted, including isolation of cases and setting up of influenza hospitals and camps. Grants-in-aid were given to local bodies for undertaking anti-influenza measures. Wide propaganda and publicity in the rural areas was carried out to educate the masses about the symptoms of the disease. The cooperation of doctors of the Indian Medical Association was secured and they devoted some time for working in isolation hospitals.

Rajasthan—The epidemic lasted upto September 1957. The Epidemic Diseases Act, was brought into force and all necessary arrangements were made to check the spread of the disease. Temporary hospitals and mobile dispensaries were established to control epidemic.

Total number of cases and deaths reported from all hospitals and dispensaries including private practitioners were 70,091 and 5 respectively.

Uttar Pradesh—The disease started its course in Bareilly and spread to other larger cities in West Uttar Pradesh and eventually 45 out of 51 districts of the State were affected. The cities of Agra, Lucknow, Firozabad, Varanasi, Allahabad and Kanpur were the worst affected.

Incidence was of a mild nature throughout the State. The disease took 65 lives. The preventive and curative measures were undertaken. The disease was declared notifiable under Section 279 of the U.P. Municipalities Act. Over 560 additional hospital beds and 20 temporary mobile dispensaries were provided. Sufficient supplies of influenza medicines were kept with the District and Municipal Medical Officers, along with other measures such as health publicity and facilities for domiciliary treatment and closures of schools.

West Bengal—By the middle of May 1957, Influenza for the first time was reported in the city of Calcutta. The disease spread throughout the State of West Bengal and cases reported were 287,115 with 442 deaths, resulting in a case fatality rate of 153.9 per million of cases and this was the highest in the whole of India except Bombay.

Preventive measures were extensively undertaken and were as follows:—

(i) Cinema houses were closed for varying periods.

(ii) The disease was declared notifiable in the urban areas.

(iii) Local health authorities were invested with wide powers for taking necessary measures for its prevention and control under the Epidemic Diseases Act of 1897.

(iv) Mobile Medical squads were provided.

(v) Active help was forthcoming from the Indian Red Cross Society, Relief Welfare Ambulance Corps, and Marwari Relief Society.

Andaman and Nicobar Islands—The first incidence of the disease was detected on M. V. Nicobar which arrived from Calcutta on the 23rd June 1957. The disease which was sporadic in the islands reached its peak during week ending 21st July 1957, when 40 cases were reported from the islands. In all 674 cases with nil death were reported during the year under report.

Propaganda work was taken up and infected families were visited daily. Periodical special checks were made by Medical Officers in addition to routine work.

Delhi—Influenza cases were reported to have occurred on 3rd June in different localities of Delhi urban areas. The areas of Delhi and Shahdara municipalities showed higher morbidity rate as compared with New Delhi Municipal Committee and Notified Area Committee, Civil Lines, Delhi.

Arrangements for the isolation of influenza cases were specially made in the different hospitals of the city and the total number of 724 beds was reserved for the purpose.

Preventive measures were vigorously undertaken, such as closures of cinema halls and schools. In addition to medical facilities provided for influenza victims in the hospitals and dispensaries under the administrative control of the Directorate, influenza mixture and APC tablets were freely distributed to patients who could not attend the influenza centres.

The Bharat Sewak Samaj and Red Cross Society opened centres at various suitable places in the city.

In the rural areas the villages were toured every day and the Superintendent of Rural Health Operations, apart from advising villagers on preventive aspects of the disease, supplied medicines free of cost to persons who were in need of them.

The total incidence reported was 97,659 cases with 18 deaths only. Case fatality rate was 184.3 per million of cases and the mortality for the million of population was 8.49.

The disease was mild throughout the State and about 0.5 per cent of cases showed complication of pneumonia, meningitis from the beginning.

It may be interesting to compare the figures of deaths in Delhi during 1918. As against 18 deaths during 1957, 23,612 deaths occurred during 1918.

Himachal Pradesh—The wave of influenza started in the territory on 8th June. The Epidemic Diseases Act was enforced soon afterwards.

Total number of cases reported were 13,285 with 4 deaths. The case fatality rate per million of cases was 300 nearly which was very high in comparison with many of the other States.

Usual preventive measures were undertaken such as isolation wards and camp facilities, wherever necessary, closure of schools and restrictions on accommodation in cinema houses.

Tripura—The disease broke out on 10th June 1957 at Agartala and the daily attack rate from the beginning to the end of the epidemic was 23.4. The disease was not of any severe nature. The patients generally suffered for 3—5 days. In all 6,252 cases with nil death were recorded in the territory during 1957.

All necessary preventive measures to check the spread of the disease were taken. About 10,000 pamphlets containing instruction 'If Flu occur in Epidemic form" were distributed widely.

Tuberculosis:

Tuberculosis is one of the major public health problems in the country. Recognising that preventive methods are better than cure the focus of attention in tuberculosis was moving more and more to detection and prevention during the year under review.

B.C.G. Vaccination Programme—Under the National Tuberculosis Control Programme, the Mass B.C.G. Campaign aims to protect all susceptible population in the country and particularly the population below 20 years estimated at about 170 million. Upto the end of 1957 over 104 million persons had been tuberculin tested and over 36 million B.C.G. vaccinated. The number of technician teams working in the field rose to 154 during the period under report.

An All-India B.C.G. Day and a Conference of B.C.G. Officers, Publicity Officers and Administrators connected with the Mass B.C.G. Campaign at Aurangabad were held during the year under report.

The Central B.C.G. Organisation had been assisting the State Governments in the organisation and coordination of the Campaign. It continued to produce and supply materials, films on B.C.G., film-strips, pamphlets and other literature on tuberculosis to State Governments free of cost. A sum of Rs. 1,86,400 has been provided in the budget for 1958-59 on account of expenditure of the Central B.C.G. Organisation. The UNICEF has so far supplied public address equipment, vehicles and vaccination kits costing about $1.6 million. To encourage the work of the State B.C.G. Organisations, the Government of India has decided to give subsidy to the tune of Rs. 25 lakhs. Subsidy to Madras State has been provided so far to the extent of Rs. 2,000.

Under a scheme sponsored by the Central B.C.G. Organisation, two supervising Medical Officers of B.C.G. work, one each from Himachal Pradesh and Bombay, were provided fellowships for training overseas by the UNICEF.

Anti-Tuberculosis Centres—Under the National Tuberculosis Control Programme, the establishment of 11 tuberculosis demonstration and training centres costing Rs. 36 lakhs had been envisaged, but due to foreign exchange difficulties only 8 centres were to be established. Apart from the five centres already established with the help of W.H.O. and UNICEF at Delhi, Patna, Trivandrum, Nagpur and Madras, work for setting up of two more centres at Hyderabad and Patiala was in progress during the year under report and it was proposed to provide X-ray and laboratory equipment costing Rs. 2.5 lakhs per centre.

Isolation Beds—During 1957-58, the Government of India provided 362 beds for isolation of advanced cases of tuberculosis throughout India. The cost of these beds came to Rs. 2,80,840. Under the National Tuberculosis Control Programme it was proposed to provide 4,000 beds for segregation of patients living in crowded homes. The Government of India meets 50 per cent. of the non-recurring cost per bed subject to a maximum of Rs. 1,250.

Tuberculosis Clinics—As centres for diagnosis and domiciliary service, the clinics have been recognised as important institutions in our National T.B. Control Programme in addition to B.C.G. Vaccination and 180 clinics, instead of 300 originally planned were to be established by 1961. During 1957-58, 60 clinics were established with Central Subsidy in the form of X-ray and laboratory apparatus at Rs. 50,000 per clinic.

After-care and Rehabilitation Centres—To help tuberculosis patients economically and in their rehabilitation a scheme for training them in suitable handicrafts and trades was envisaged under the National Tuberculosis Control Programme. Seven work centres costing Rs. 30 lakhs were to be set up in association with large clinics. The Delhi administration had already made a piece of land available in the Irwin Hospital for the centre. Proposals for such centres had been received from Madras, U.P. and West Bengal and up-to-date grants amounting to Rs. 25,688 and Rs. 1,12,500 had been sanctioned for the purpose to U.P. and West Bengal respectively during the year 1957. Proposals from Andhra Pradesh and Punjab were awaited.

Establishment of 52-bedded Isolation Ward at Mehrauli—The Government of India gave a non-recurring grant of Rs. 2,16,468 to the Tuberculosis Hospital at Mehrauli for the establishment of a 52 bedded ward for isolation of advanced tuberculosis cases. The Government gave a grant of Rs. 75,000 to the Tuberculosis Association of India for the maintenance of the ward during 1957-58.

The progress in combating the menace of T.B. at different States may be summarised as under: —

Andhra Pradesh—A mass B.C.G. vaccination campaign effectively progressed and had done more than the target figure during the year 1957. Total number of persons tested was 19,17,895 of whom 5,88,813 were vaccinated.

3 Government T.B. Hospitals and 2 Private Tuberculosis Sanatoria aided by the Government were functioning during the year. At the hospital for Diseases of Chest and Tuberculosis at Hyderabad, Thoracic Surgical Unit started, and Thoracic operations were being conducted.

The T.B. Clinic at Welfare Fund T.B. Hospital, Nellore was upgraded. 5 more chest clinics had been established in different District Headquarters Hospitals with Central Assistance of Rs. 50,000 for each clinic during the year.

Assam—The Anti-T.B. Scheme under the Public Health Department was working satisfactorily. The mass B.C.G. vaccination campaign which worked with four mobile teams during the previous year, increased by one more team during the year under review. Construction of two double storeyed building under the Five Year Plan consisting of 100 beds besides the existing 99 beds was completed and started functioning during the year 1957. A T.B. hospital with 30 beds was opened at Silchar, Cachar during the year under review.

Bihar—During the year 1957, five new T.B. clinics were opened. Two 10 bedded T.B. wards were also brought into operation during this year at Shra and K. M. Hospital, Bettiah. Six additional teams were added to the B.C.G. vaccination teams.

Bombay—The bed strength of T.B. ward in Madhya Saurashtra District was raised to 32 as against that of 20 last year. An extension of 44 beds ward to T.B. Sanitorium already in existence had been constructed in 1957 in Civil Hospital, Buldhana. A new T.B. clinic and ward of 20 beds at Limdi was nearing completion. One T.B. Hospital was opened during the year 1957 at Gondia with 50 beds. For eradication of T.B., B.C.G. vaccination scheme was functioning in Gohilwad District.

Madhya Pradesh—Mass B.C.G. vaccination campaign was in operation in this State as one of the preventive measures against tuberculosis. 11 B.C.G. teams worked in 4 integrated units. 4,99,869 persons were tested and 1,88,968 B.C.G. vaccinations were performed in all regions. Control of T.B. in the State included preventive as well as curative aspects. During the year, 263 additional beds were provided by opening one new T.B. hospital, one T.B. clinic and 3 T.B. wards.

Madras—The Government of Madras have accorded sanction for upgrading three T.B. clinics in the State, *viz.*, at Tanjore, Madurai and Coimbatore. The construction of a ward of 18 beds at Government T.B. Sanitorium, Tambaram had been completed. An annexe of 29 beds for the Employees State Insurance patients was completed at the Government Headquarters, Coimbatore.

B.C.G. campaign under the control of this State was continued with 6 units in rural areas and Municipal towns other than district Headquarters in Coimbatore and Salem District. During 1957, out of 3,90,755 persons tuberculin tested, 1,59,509 were vaccinated.

Orissa—By the end of the year under report 5,89,800 persons were tuberculine tested and 2,49,967 persons vaccinated. 106 beds including 35 beds in the Government T.B. Hospital at Uditnarayanpur in Kalahandi district had provided for treatment of T.B. patients. Two T.B. clinics, one at Cuttack and the other at Sambalpur continued to function.

The State Second Five Year Plan provided Rs. 12,15,000 for establishment of a 150 bedded T.B. Hospital at Chandpur and Rs. 6,82,000 for establishment of 11 T.B. clinics attached to each of the remaining 11 district Headquarters Hospitals with 6 observation beds in each hospital in the State.

Punjab—After PEPSU merged with Punjab as one State, Punjab had 21 T.B. clinics and 9 T.B. Hospitals and sanatoria during 1957. The total number of beds in these clinics, hospitals and sanatoria were about 1,600. Upto the end of 1957, about 66 lakhs of people were tuberculine tested and about 20 lakhs had been vaccinated.

Rajasthan—There were 17 medical institutions with 377 beds dealing specifically with Tuberculosis. 5 hospitals and sanatoria with 291 beds, 8 clinics with 12 beds and 4 T.B. wards in general hospitals with 72 beds were functioning. Besides there was a sanatorium at Ajmer of some Voluntary Missionery Organisation with 250 indoor beds. During the year under report. 2 T.B. clinics were established at Alwar and Bikaner. 24 beds in K. G. V. T.B. Sanatorium, Jaipur, 20 beds in General Hospital, Dungarpur were provided during the year. The total number of B.C.G. vaccinations performed during the year was 2,33,457. The T. B. clinic, Udaipur was upgraded and supplied with Laboratory equipments and X-ray plants.

Uttar Pradesh—Construction of 25 bedded ward at District Hospital at Meerut, 25 bedded hospital at Aligarh, 20 bedded ward for ex-servicemen at Gehia Sanatorium, Nainital, 16 bedded ward in Badaun, 16 bedded ward in District Hospital, Bulandshahar were completed during the year 1957. B.C.G. vaccination was offered in the State by 15 teams, each containing one Medical Officer and 6 Technicians. 16,76,731 persons were tested of whom 5,02,640 were vaccinated during the year under report.

West Bengal—In 1957, there were 14 mass campaign and one non-mass campaign teams for B.C.G. vaccination in the State. All together 13,45,000 persons were tested with Tuberculine of whom 5,13,440 were vaccinated B.C.G. during the year. 37 chest clinics were functioning during the year of which 6 clinics were newly opened. During the year, 9 Domiciliary Treatment Units functioned in the State. There were 11 T.B. Hospitals and Sanatoria in 1957. The total number of beds in these institutions were 2,421. 417 beds were provided in 32 wards of General Hospital for the treatment of T.B. patients. Besides, the Serampore Chest Clinic also maintained 6 beds during the year under reference.

Andaman and Nicobar Islands—There was a T.B. ward attached to Bamboo Flat Hospital with 18 beds.

Delhi—There were two T.B. Hospitals and four T.B. clinics in Delhi during the year under review. In 1957, 200 beds were sanctioned for S. J. Tuberculosis Hospital raising the bed strength of this hospital to 863. As compared to 837 major operations performed in 1956, 897 were performed in 1957 at the S. J. Tuberculosis Hospital. During the year 3,009 contacts were tested and 14 B.C.G. vaccinated as compared to 2,734 tested and 12 vaccinated in the year 1956. The total number of beds available at the end of the year 1957 were 1,117.

Himachal Pradesh—The incidence of tuberculosis in Himachal Pradesh was fairly high. The indoor accommodation for T.B. patients was 40 only in T.B. Sanatorium at Madhodar in Mahasu District where clinical treatment to the T.B. patients was afforded. A double-storeyed structure had been added to provide accommodation for 16 patients more during the year.

Leprosy:

During the year under report the Scheme fod Control of Leprosy continued to function as it started during the First Five Year Plan. So far, 4 Treatment Centres, one in each of the States of Madhya Pradesh, Madras, Uttar Pradesh, West Bengal, and 52 Subsidiary Centres were established in different States of Andhra Pradesh, Assam, Bihar, Bombay, Himachal Pradesh, Kerala, Madhya Pradesh, Madras, Manipur, Orissa, Uttar Pradesh and West Bengal. The scheme was placed under the overall charge of a Director, Leprosy Control work who was responsible for inspecting and advising on the operation of the scheme, as well as for coordination of the activities of the various centres through the State Health Directorates who were responsible for implementation of the scheme.

For the year 1957-58, a provision of Rs. 20 lakhs was made as the Central Government share of expenditure towards the scheme.

The States receive financial assistance for the Leprosy Control Scheme as follows:—

Non-recurring expenditure 100 per cent.

Recurring expenditure:

80 per cent. for 1st 12 months.
70 per cent. for next 12 months.

50 per cent. for next 12 months.
30 per cent. for next 12 months.
20 per cent. for next 12 months.

In the indoor and out-door departments of the Central Leprosy Teaching and Research Institute, Chinglepur in the Madras State 1,434 and 750 patients obtained treatment for leprosy. At the Silver Jubilee Clinic at Saidapet 2,623 out-patients were treated during the year 1957.

Andhra Pradesh—The incidence of Leprosy is very high in the districts of Srikakulam. East Godavari, West Godavari and Chittoor. The State Leprosy Survey Unit, Andhra Pradesh was carrying on survey to get a correct picture of the incidence of Leprosy in the State. The total number of bed strength in various districts was 2.227. During the period under report leprosy subsidiary centres were opened at Kurnool, Kesarapalli and Kodangal (Mahboobnagar District) and arrangements were also made to render domiciliary treatment to leprosy.

Assam—During the year under report, 4 Leprosy Colonies and one Leprosy Subsidiary Centre with indoor accommodation continued to function for treatment of Leprosy patients of the State. In all these Colonies, including the few managed by the Missionaries and Voluntary Organisations, there were 900 beds available for leprosy patients.

Bihar—During 1957-58, Government sanctioned the opening of 2 more Leprosy Subsidiary Centres, one at Bakhari (Champaran District) and the other at Nawadah (Gaya District).

Bombay—Leprosy prevalent in Districts Broach and Junagadh and free treatment was given to patients at all Government and District Board Dispensaries. There were 70 beds for indoor patient accommodation during the year. Every hospital and dispensary in the District of Yeotmal was having Leprosy Clinic.

Leprosy Clinic at J. J. Hospital, Bombay was also started. During 1957, 333 cases were registered.

Kerala—There were 2 hospitals and 3 treatment Centres for Leprosy with total bed strength being 1,180. Number of patients treated during 1957 was 10,030, of which 3,166 were indoor patients and 6,864 were outdoor patients.

Madhya Pradesh—There were 85 out-patient Leprosy Clinics of which 16 were special clinics and 69 attached to various Hospitals and Dispensaries.

During 1957. one batch of 9 Leprosy technicians was recruited and trained for a period of 9 months at Government Leprosy Hospital, Raipur.

There were 10 in-patient institutions in the State of which 5 were run by Government and other 5 by American Mission.

At special Clinics, Dispensaries and hospital clinics and under Leprosy Control Scheme nearly 8.000 cases of Leprosy availed of treatment during 1957.

One study-cum-treatment Centre at Raipur and 4 Leprosy Subsidiary Centres at Champa, Sausar, Shahapur and Rewa under the Government of India Leprosy Scheme functioned in the State.

Mysore—There were 4 well equipped Leprosy Institutions. Leprosy patients were also treated as out-door patients in some of the major medical institutions in the State. 3 Leprosy Clinics were started during the year under review.

The skin clinic at Victoria Hospital, Bangalore, provides diagnostic facilities for Leprosy patients. The Central Leprosarium, Bangalore with 200 beds catered to the needs of the entire State. The following table shows the comparative figures for 1956 and 1957 with other details:—

Year	Number of Leprosy Institutions	Number of beds provided	Number of patients treated in these institutions		Number of patients treated in all the institutions	
			In-door	Out-door	Indoor	Out-door
1956	3	309	635	1,594	3,09,480	1,29,14,381
1957	4	434	757	821	3,38,133	1,42,25,474

Orissa—349 Leprosy Clinics including clinics attached to the hospitals and dispensaries were functioning. 1,611 beds were available in different hospitals, colonies, asylums and settlements. 13 domiciliary treatment centres were opened by Hind Kusht Nivaran Sangh during the year.

Punjab—Leprosy work in the Punjab was being carried out by the Leprosy Section in collaboration with non-official bodies, *viz.,* Hind Kusht-Nivaran Sangh, Punjab Branch, and the various Leprosy missions. State Government acts as advisory body in technical matters and grants financial help to the Homes.

There were 1,787 known cases of Leprosy in Punjab including those in 4 mission Leprosy Homes. 847 known cases were from endemic area of Kangra district. A survey was made in Kothies, Kohd and Swar in Palampur Tehsil during the year 1957 and 2,324 persons were examined, out of which 26 new cases of Leprosy were detected.

Rajasthan—Leprosy was not a major problem in Rajasthan as its incidence was only 0.9 per 1,000. Two Leper Asylums were working in the State—one at Jaipur with 40 beds and another at Jodhpur with 55 beds. 821 cases were treated in all the State as against 905 cases in 1956.

Uttar Pradesh—Institutional facilities for treatment of leprosy were available in 18 Centres, with bed strength of 1,484. One study and treatment centre, 6 Subsidiary Centres and two mobile units for control of leprosy were operating in the State during the year under review.

West Bengal—The number of leprosy cases had been estimated to be 3.5 lakhs in the State. In the year under review there were 9 hospitals, houses, and Colonies with 2,336 beds for isolation and treatment of lepers. 14 beds were also maintained by 5 Jails and Police hospitals.

The West Bengal Branch of Hind Kusht Nivaran Sangh carried out leprosy survey at 2 centres during the year 1957. The Sangh received Rs. 16,000 as grant-in-aid from the State Government for the year. Total expenditure on anti-leprosy work in the State during the year was Rs. 13,26,515.

Andaman and Nicobar Islands—Only 7 cases of Leprosy were reported during the year 1957. The leprosy cases were admitted and treated in an Isolation ward attached to the Bamboo Flat Hospital.

Delhi—Leprosy Home, Tahirpur, Shahdara and the Leprosy Clinic, Jama Masjid were catering to the needs during the year. 12,562 out-door cases were treated in Leprosy Clinic, Jama Masjid during the year 1957.

Himachal Pradesh—A leprosy subsidiary unit started in Mandi district under Second Five Year Plan with its 5 Sub-centres in the interior of the district where the incidence of leprosy is 0.5 to 3 per 1,000.

Manipur—Leprosy control programme continued and 1,11,057 persons were examined out of which 329 cases were detected during the year.

Venereal Diseases:

Venereal diseases constitute a major public health problem in the country. The common venereal diseases present are syphilis, gonorrhoea, chancroid, lymphogranuloma venereum and granuloma inguinale. Of these syphilis and gonorrhoea are the major diseases both from the individual and public health point of view. Syphilis is widely prevalent in the large cities, ports, industrial areas, pilgrim centres and in some of the sub-Himalayan tracts. The prevalence of syphilis alone is estimated to be about 5 per cent. of the population. An equal, if not greater, prevalence rate is estimated for gonorrhoea. The other venereal diseases are localised in their distribution. With the rapid industrialisation of the country, these diseases are likely to pose a greater problem.

Prior to the Second Five Year Plan, there was no V. D. control programme as such on a nation-wide scale. Individual States had some meagre facilities for the treatment of V. D. patients. A scheme was included in the Second Five Year Plan for the control of venereal diseases as a Centrally aided programme. The scheme envisaged the setting up of a Central V. D. Organization in the Directorate General of Health Services with an Adviser in Venereal Diseases, establishment of 8 State Headquarter V. D. Clinics and 75 District V. D. Clinics, free supply of penicillin (PAM) and VDRL antigen to these clinics and training of the required personnel.

An adviser in Venereal Diseases was appointed in November, 1957. The implementation of the programme, therefore, started from November, 1957.

During the year, a total of 3 Headquarter V. D. Clinics and 19 District V. D. Clinics were established in the different States. In addition to free supply of penicillin (PAM) and VDRL antigen, Central assistance to the extent of 75 per cent. of non-recurring expenditure and 50 per cent. recurring expenditure was extended to these clinics.

A uniform system of reporting was introduced in these clinics on a standard proforma. In these clinics both curative and preventive aspects are combined.

An intensive V. D. control scheme for the Mahasu district in Himachal Pradesh was worked out. Under this scheme 7 clinics were to be established in this district where the incidence was estimated to be as high as 30 per cent.

VDRL antigen was supplied to all the clinics free of cost. As the test using this antigen is simpler, economical and more specific, this has been recommended as the single test of choice in all the V. D. laboratories conducting serological tests for syphilis.

A suggested schedule of treatment with PAM for syphilis and gonorrhoea and treatment for other venereal diseases was supplied to all these clinics.

A 16 mm film on Venereal Diseases, entitled "Vicious Enemy" both in Hindi and English was produced in consultation with the Adviser in V. D. and displayed. A copy of this film was supplied to each State Government through the Central Health Education Bureau.

8 Medical Officers underwent diploma courses in Venereology at the Institute of Venereology, Madras and 16 medical and para-medical officers were given refresher courses both at this Institute and at the V. D. Training & Demonstration Centre, Safdarjang Hospital, New Delhi.

According to reports received, 876,790 V.D. cases were treated in the country during the year.

Two Fellowships were given by the T.C.M. for studying V.D. control methods in U.S.A. during the early part of the year.

V.D. Training Centre, Safdarjang Hospital, New Delhi—There has been an increase in the number of V.D. cases seen during the year at this Centre. 14,092 cases attended this Centre during this period, of which 2,908 were new. The increased clinic load, which is about 25 per cent. than the previous year, is attributed to the Centre getting popularity due to contact tracing and health visiting work. In a statistical analysis, the Unit has observed that 54 per cent. of new V.D. cases belonged to infectious category comprising Early Syphilis, Gonorrhoea and Chancroid, and 87 per cent. of these infectious cases gave history of exposure with 'Prostitute' or 'Casual Acquaintance'. The Unit also observed a decrease in the seropositivity rate, *viz.*, 8.8 per cent. during 1957 as compared to 19.7 per cent. in 1954.

The Centre offered serological facilities to a large number of previously treated cases and also non-syphilitic patients who came for check up.

The Centre gave short term refresher courses in V.D. to 4 Medical Officers, 2 Staff Nurses and one Health Visitor during the year.

Activities of the various States regarding V.D. Control is detailed below: —

Assam—For specialised treatment of venereal diseases, two V.D. clinics including one in Assam Medical College Hospital, Dibrugarh continued to function. Serological examinations had been made free to all V.D. patients of the State.

Bihar—During the year 1957-58, three V.D. clinics started at Arrah. Dhanbad and Monghyr. This scheme had also been assisted financially by the Government of India besides contribution of free penicillin and equipment etc. These clinics were responsible for investigation, survey and treatment of V.D. patients.

Bombay—There were 344 cases of V.D. in various hospitals and dispensaries in North Satara District. V.D. cases were certainly on decrease in the Bombay State. The Bombay Municipal Corporation also opened some centres in different parts of the city. Government provided financial assistance to V. D. clinics in Bombay State and also at the hospitals situated outside Bombay for its control. Government was also considering the need for protection and prevention of students community from V.D. in cities like Bombay, Poona, Ahmedabad. Another problem was V.D. among industrial workers.

For combating venereal diseases two V.D. clinics were opened in Vidharbha area and seven V.D. clinics were opened in the Marathwada area. Owing to high incidence of venereal diseases in tribal areas of Panchmahals district, government sanctioned a V.D. mobile unit for this district in order to provide adequate facilities. Government built a special wing for V.D. in J.J. Hospital and a sum of Rs. 30,000 was sanctioned as Penicillin grant for treatment of venereal diseases in the hospital during the year.

Madhya Pradesh—About 30.000 cases were treated in all hospitals and dispensaries during the year 1957. 3.029 cases of V.D. were treated at Ambikapur Clinic. Besides this seven more V.D. clinics started functioning at Gwalior, Indore, Bhopal, Satna, Chattarpur and Shehdoe and Datia. Three candidates were sent for V.D. refresher course at Safdarjang Hospital, New Delhi, during the year.

Mysore—In the entire State, there are 5 clinics for free treatment of Venereal Diseases. Apart from the clinics, the cases are also being treated as out-door patients in almost all medical Institutions in the State.

The total number of in-patients treated in 1957 in all institutions was 338,133 as compared to 309,480 in 1956. And the number of out-patients treated in all institutions of the State during 1957 was 14,225,474 as against 12,914,381 during 1956. The number of beds provided for V.D. treatment was reduced in 1957 to 61 as against 68 in 1956.

Orissa—29 beds were set apart in General Hospital for treatment of V.D. cases. Clinics were held in 5 district headquarters hospitals. A special grant of Rs. 20,000 was distributed to hospitals and dispensaries for purchase of special medicines for the treatment of V.D. cases.

Punjab—There were 3 clinics and one V.D. Hospital in the Punjab. In the mobile and stationary clinics in Kulu, 797 patients were treated as out-patients and 30 as in-door patients. A total number of 7,014 c.c. of PAM was used for such treatment during 1957. The overall percentage of Seropositively 3,737 cases screened, was 13·9 per cent. as compared against 39.6 per cent. in 1951 when V.D. work started in the State. In V.D. hospital, Kandaghat, 425 out-door patients were treated. In the V.D. clinic, V.J. Hospital, Amritsar, 1,150 out-door and 14 in-door cases were treated during the year.

Rajasthan—From the reports of hospitals and dispensaries it appeared that the incidence of V.D. was decreasing. Four hospitals were provided with V.D. clinics with 36 beds. The total number of V.D. patients treated in all the Hospitals and Dispensaries were 23,623 as against 27,003 in 1956.

Uttar Pradesh—Treatment of V.D. was available at all hospitals and dispensaries and at the Venereal diseases departments of Medical Colleges. V.D. being rather widespread among the people of Jaunsar-Bawar of Dehra Dun District, a mobile V.D. Team was functioning for mass treatment there.

West Bengal—During the year 23 V.D. clinics functioned in the State. One mobile Unit for the tribal people was opened during the year. The total number of patients treated was 2,15,179 as against 2,42,062 in 1956. Facilities were available for treatment of cases in 111 indoor beds of different hospitals. 56,219 samples were tested during 1957 in the Serological Laboratory (V.D.) attached to the Blood Bank, Calcutta.

Andaman and Nicobar Islands—A V.D. Clinic in Car-Nicobar was opened during the year. Patients suffering from V.D. had been treated in the General Hospital, Andaman.

Delhi—The number of patients treated in V.D. clinic, Jama Masjid, Delhi (MPL) was 10,099 during 1957.

Himachal Pradesh—V.D. control programme was initiated in Himachal Pradesh in Mahasu District in the year 1949. The present organisation of V.D. control consists of 5 district V.D. Units at the District Headquarters. Intensive V.D. control programme was in progress.

Pondicherry—Venereal diseases were treated as out-patients in the V.D. clinics. Only critical and complicated cases were admitted in the hospitals. 2,092 patients were serologically examined out of which 1,707 were positive to Khan and Menicae test. One male nurse was deputed to Madras V.D. department for training during the year.

Blindness and Eyes Diseases:

The incidence of eye diseases in India is fairly high. In the past the problem of blindness and eye diseases in the country as a whole did not receive attention as it deserved from the public, from administrators and from the medical profession. Very few of the big States have special eye hospitals, but the general hospitals in all the States were equipped to meet the eye treatment of a general nature. Eye relief camps, mobile eye clinics provided facilities for treatment in rural areas of several States. Trachoma constitutes major problem in eye diseases and is one of the principal cause of total and partial blindness in many parts of India. Trachoma control Pilot Project was inaugurated at Aligarh in 1956 at the Gandhi Eye Hospital and Institute of Ophthalmology. It completed its first year of activity by the end of October, 1957. The surveys conducted on the socio-economic conditions, bacterial infection and on the role of flies that they play in the spread of Trachoma in this country. The pilot mass treatment was also done on about 3,000 active cases of Trachoma in 22 villages to find out an effective anti-biotic for treatment of Trachoma which should be economical and practical.

Some of the States, Bombay, Mysore, Rajasthan, Uttar Pradesh, Punjab and Bihar were visited by the W.H.O. experts and Trachoma Pilot Project Research workers during the year 1957. Information that had been made available was that trachoma was a major public health problem, affecting mostly the children when the trachoma complication was rising as age advanced. It was observed that trachoma with its complication was the biggest single cause of blindness in this country.

The position in some individual States as far as information was available is described below:—

Assam—As usual eye relief work including eye operations was done in all the civil hospitals at the district and sub-divisional headquarters. Minor eye complaints were treated in all the dispensaries of the State maintained by the Government and local boards and other missionary hospitals. There was no regular Government hospital in the State exclusively meant for the treatment of eye diseases. The Ophthalmic Department of the Assam Medical College Hospital, Dibrugarh was catering the usual relief to the people in various eye diseases. Some private institutions like Shrimanta Shankar Mission Eye Hospital at Nowgong organised many eye relief camps in various rural and urban areas of the State during the year.

Bihar—Eye relief was organised during 1957 at different places in the State through official as well as non-official agencies. Official eye relief camps were held at six places. Societies and charitable organisations also organised eye relief work at different places. Blind relief camps were organised at different places through the agencies of the Gram Panchayats. Deputation of Ophthalmic Surgeon and supply of drugs and equipments were done by the State Government.

Bombay—There was a mobile eye hospital attached to the department of ophthalmology which held monthly eye camps in rural areas where both medical and surgical treatment were rendered to the patients in medical college and hospital, Nagpur. There were two private eye hospitals at Pattan and Vednagar in district Mehsana and two ophthalmic units in Civil Hospital, Ahmedabad. In order to give benefit of specialised treatment for eye diseases, eye camps were held in rural areas. During the year under report two eye relief camps were functioning. 1,310 patients were treated and 224 operations were performed at Vihod Naghash and Saru eye camps. Government also sanctioned some grant-in-aid to the private organisation for work in the field of eye diseases.

Kerala—There was only one ophthalmic hospital in the State during the year. Its bed strength was 150. There were also 50 beds in other hospitals to treat eye patients. The total number of patients treated during the year 1957 was 9,445 indoor and 53,460 outdoor.

Madhya Pradesh—The treatment of eye patients was available at the eye camps under the eye mobile units in rural areas and in district headquarters hospitals. There were no special eye hospitals run by the State Government during the year as these facilities were provided in all the district hospitals under the management of the State Government. During the year 1957, six eye camps were organised in six districts. In addition to these 8 more eye camps were organised by the private institutions during the year 1957. The expenditure for the eye camps organised by the Government was fully borne by the State Government. The number of trachoma cases treated in the eye camps was 674.

Orissa—There was no separate eye hospital. Facilities were provided in the S.C.B. Medical College Hospital, Cuttack for treatment of all sorts of eye diseases and 48 beds had been provided there. Facilities were also available in the District Headquarters Hospital and sub-divisional hospitals for treatment of common eye diseases. Four temporary eye camps were organised under the supervision of eye specialist for treating eye diseases amongst the tribal population.

Punjab—Every possible effort continued to be made during the year 1957 to provide adequate facilities to the population suffering from eye diseases in the Punjab State. In order to cater to the needs of patients at places where no specific eye hospital existed proper and adequate treatment was afforded at the general hospitals. During the year, eye camps were also opened at Ambala, Karnal, Ludhiana, Patiala, Mohindergarh, Sangrur, Gurgaon, Rohtak and Kangra districts where extensive propaganda was also carried out for prevention of blindness. There were two hospitals in Bhiwani and Asthalbohar exclusively for eye diseases having 336 beds. In other 15 hospitals there were 334 beds for eye treatment.

Rajasthan—The geographical conditions in Rajasthan do aggravate eye diseases. Western part of Rajasthan is mostly sandy where desert conditions prevail. Consequently trachoma with its complication is fairly common in this part of the State. During the year 1957, no special mobile team for trachoma work alone was functioning, but adequate treatment was given to such patients in general hospitals and dispensaries. In the year 1957, two doctors were deputed from the State to get their training under Trachoma Pilot Project at Aligarh under Indian Council of Medical Research. Six camps were held where 1,168 eye operations were performed during the period from March to December, 1957. Relief camps in the State were well organised and working under the mobile surgical unit whose superintendent was the Reader in Ophthalmology.

There was no separate eye hospital run by the Rajasthan Government. Special facilities under eye specialists or trained eye doctors were provided in 12 different hospitals of the State with 376 beds for eye patients. Total number of eye cases treated in all the State public hospitals and dispensaries during the year under report was 9,66,146 out-door and 8,836 in-door.

Uttar Pradesh—Eye relief work apart from being undertaken at the State hospitals and dispensaries continued on zonal basis for rural areas in the State divided into six zones. During the Second Five Year Plan ophthalmic sections at the divisional headquarters hospitals, *viz.*, Meerut, Varanasi, Bareilly, Balrampur and Lucknow were established. 18 Government sponsored eye relief camps were held at Tehsil headquarters in different districts of the State both in summer and winter and rendered eye relief to rural populations. Trachoma pilot project continued to function under the auspices of Gandhi Eye Hospital, Aligarh. 15 candidates from U.P. were sent for training as Refractionists and opticians at the Gandhi Eye Hospital, Aligarh during the year 1957.

West Bengal—Three travelling eye dispensaries subsidised by the Government had been rendering valuable service in the interior part of the State in curing eye diseases and preventing blindness. Eye wards attached to all important general hospitals were catering relief to the patients suffering from eye diseases. Arrangements for the treatment of eye patients for the territory of Agartala were made by one travelling eye unit from West Bengal Government. The team stayed there for six months and treated many eye patients.

Himachal Pradesh—There were no separate eye hospital in this territory. All cases were treated in the various hospitals and dispensaries during the year 1957. During the year eye patients were given necessary treatment in in-door and out-door and no separate beds in the general wards of the hospitals were earmarked for eye patients.

Andaman and Nicobar Islands—Eye diseases in this State do not create a major problem. There was no separate eye hospital or arrangements for specialist treatment for eyes in the State during the year 1957. Eye patients were treated in the general hospitals.

CHAPTER III

PROGRESSIVE HEALTH ACTIVITIES IN THE STATES

Medical Inspection of School Children:

The system of medical inspection of schools is different in different States. The activities regarding medical inspection of students carried out in different States during the year under report are detailed below:—

A table No. 12 shows the States in which school medical inspection exists and the number of students examined and found defective due to certain causes in different States.

Andhra Pradesh—The work of school medical inspection which was inaugurated in June, 1934 in Hyderabad State was continued in the city as well as the districts. The scheme covered only Government institutions in the beginning, but subsequently all government aided schools in Hyderabad city and Secunderabad city and suburbs of both cities are included.

Five wholetime Medical Officers and two Lady Medical Officers were engaged in the work.

The work of medical inspection was carried out during the year under report according to the revised scheme, which was introduced in the year, 1944. In this scheme old routine way of examining each and every child every six months was given up. The detailed examination is carried out at four stages, i.e., infant classes, IV, VII and IX standards. Two school clinics were opened in Hyderabad city for the treatment of sick children. During the year, under report, 9,926 children attended these clinics.

23,076 school boys and 5,683 school girls were examined in the Hyderabad city. In Secunderabad city, the total number of boys and girls examined were 10,436 and 9,538 respectively.

Assam—There was no school medical services during the year under report.

Bihar—1,164 students of 5 institutions were medically examined of which 480 were found to be suffering from different diseases. In case of secondary Anglo-Indian schools a thorough medical inspection is conducted once a year while in girls' high schools it is conducted twice a year by the Lady School Medical Officer. Besides, District Board Medical Officer examined the middle schools of different districts.

Kerala—The system of school medical services does not exist in the State.

Punjab—In urban areas schools continued to make their own arrangements for medical inspection of school children by employing part-time medical officers. Such schemes are financed by realising a small fee from the students. In areas of erstwhile PEPSU State, medical inspection of school children schemes continued functioning during the year under report. 3,470 students were examined.

In Rural Areas—The Medical Officers-in-Charge of rural dispensaries continued the work of medical inspection of primary and middle schools in the District Board and Government Schools free of charge. The medical officers, however, received remunerations for their additional work in high schools from Medical Inspection Fund of the schools. During the year, 43,563 students were examined and 7,677 were found defective due to certain diseases the details of which was not available.

Rajasthan—The medical inspection of school children was being carried out regularly in Jodhpur and Jaipur districts. The same has been in existence in Jodhpur city even now, but in other places it had to be suspended due to administrative reasons, but a scheme was prepared in 1956 to carry out the medical inspection of school children for regular inspection and is still under consideration.

Uttar Pradesh—The medical inspection of school children was conducted by wholetime school health officer in 14 large towns and by District and Municipal Medical Officers of Health for others. There are two types of examinations; detailed for students in high secondary schools and less detailed for those in primary institutions. 71,385 students out of 898,041 on roll were medically examined in detail. For less detailed examination 249,844 students out of 2,521,892 on roll were examined. Further details of the scheme were not available.

Himachal Pradesh—The medical officers within five miles radius from their dispensaries and hospitals periodically examined the children and gave necessary medical aid and advice. A school health scheme under the Second Five Year Plan is underway. Its implementation was, to a certain extent, handicapped due to non-availability of personnel. During the year 17,874, students were examined and 2,846 were found defective due to malnutrition, bad teeth and gums, tonsils, eye defects, skin diseases, respiratory diseases, enlarged spleen and others.

Manipur—In the union territory, 7,016 students were examined and 1,003 were found defective due to certain causes.

Fairs and Festivals:

Table below shows the number of fairs and festivals held during the year under report in different States. The information presented is by no means exhaustive or complete, but it serves to indicate the magnitude of the problems that Public Health Departments have to face every year. Strength of congregations cannot be exactly assessed except in a State like Bombay, which levies a toll tax on each visitor and they may vary from a few hundreds to a few lakhs.

The number of fairs and festivals held during 1957 in different States:—

State	Number of fairs and festivals
Andhra Pradesh	115
Assam	5
Bihar	*
Bombay	24
Kerala	126
Madhya Pradesh	507
Madras	500
Mysore	*

State	Number of fairs and festivals
Orissa	*
Punjab	2(Major)
Rajasthan	758†
Uttar Pradesh	7
West Bengal	*
Jammu and Kashmir	*
Andaman & Nicobar Islands	—
Delhi	*
Himachal Pradesh	*
Manipur	10
Tripura	*
Pondicherry	*

*Not available.

†9 banned due to influenza epidemic.

—Nil.

Public Health Departments of States make extensive arrangements on such occasions as a matter of routine. The usual steps taken include mass inoculations against cholera and smallpox, protection of water supply and disinfection of existing sources of water at the fairs and enroute; and protection of cooked food from contamination. At large fairs, temporary infectious diseases hospitals were set up for isolation. If some infectious disease is already prevalent in an area, restrictions are imposed on the holding of fairs in that locality. Special measures were taken for combating influenza epidemic which was prevalent all over the country during the year under review.

In the States of Assam, Bombay, Kerala, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh, the Union Territories of Manipur and Himachal Pradesh, the fairs and festivals passed off without outbreak of any epidemic. The Rajasthan Government banned 9 fairs due to influenza epidemic. As, during the Pushkarma festival in Krishna district of Andhra Pradesh, there was influenza epidemic in and around the festival centres, as well as in other parts of the State, measures were taken to discourage the public from attending the festival. In the State of Madras, all the festivals except one passed off without any outbreak of epidemic. Cholera broke out amongst the pilgrims returning from the Maraniman Car festival held at Samayapuram in the Tiruchirapalli district during the month of April. Prompt preventive and control measures were taken by the health staff and the epidemic brought under control quickly. Some of the States like Madras, and Himachal Pradesh utilised the occasion for health propaganda through audio-visual aids.

Health in Jails:

The health of prisoners is important in so far as it enables to have the picture of medical facilities available and other ancillary aspects of jail life, obtaining in different States. Besides fulfilling the above purpose, statistics of health are of special interest for the reason that they are based on suitable diagnosis of morbid conditions and cause of sickness is authentically known, unlike that in the case of general population.

Table No. 13 gives the average daily population, authorised accommodation in jails and number of prisoners per 100 units of authorised accommodation. These give an idea of facilities of accommodation in relation to the number of prisoners to be accommodated. The information was received from 15 States and Union Territories only at the time of reporting, *viz.,* Andhra Pradesh (Andhra region only), Assam, Bihar, Bombay, Kerala, Madras, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal, Delhi, Himachal Pradesh and Tripura.

It can be seen from the table that average daily population in comparison with 1956 increased in Assam, Bombay, Kerala, West Bengal and Tripura; in the other States there were percentage decreases ranging from one to 30 per cent. As regards authorised accommodation, Assam, Bombay, Uttar Pradesh, Himachal Pradesh reported a slight increase, and Kerala and Madras less by percentages 17 and 0.7 respectively. In Mysore, Orissa and Rajasthan, the position was the same.

The number of prisoners per 100 units of authorised accommodation shown in the last column of the table is an index of overcrowding. Among the States that reported there was no overcrowding except in Andhra Pradesh, Assam, Bihar, Delhi and Punjab. In comparison with 1956, the index increased in Andhra Pradesh, Assam, Bombay, Kerala, Madras and West Bengal and decreased in Mysore, Orissa, Rajasthan, Uttar Pradesh and Himachal Pradesh.

The next important fact of health among prisoners is the number of prisoners admitted into hospitals and constantly sick on any day, both expressed as per mille of the average daily population. The admission rate and constantly sickly rates are presented in Table No. 14. Compared to 1956, the former increased in all the States except Kerala, Bombay and Orissa while the latter decreased only in Kerala and Andhra Pradesh. The highest admission rate was in Mysore followed by Tripura, Rajasthan and Orissa.

The bodily weight of prisoners can be taken to be a rough measure of the State of their general health. Table No. 14 also gives of prisoners who gained, lost and remained stationary.

It is important to note that the percentages of those who lost weight varied from 0.80 to 8.99 in 1957 and in many a case were lower than those of 1956. Except in Tripura, Bombay, Uttar Pradesh, West Bengal, Punjab, Andhra Pradesh and Andaman and Nicobar Islands, the percentages of those who increased in weight were higher than of those who remained stationary. There the figures point to a satisfactory state of health among prisoners.

Table Nos. 15 and 16 give the admission and death rates due to different diseases. Among specific diseases Influenza and Malaria were the most important that affected the prisoners in most of the States. Cholera, Smallpox and Plague were almost nil, due to the extensive preventive measures undertaken. Almost all the prisoners were vaccinated against Smallpox and Anti-cholera inoculations were also performed in a large number of cases. The statistics of preventive measures are given in Table No. 17.

Highest death rate was reported in Andhra Pradesh (16.80) followed by Assam (10.43) and Orissa (6.02). It is gratifying to note that Delhi recorded the least death rate (0.39). Dysentery accounted for the highest death rate in Andhra Pradesh, which recorded the highest among the States for which information was available. Death rate for T.B. of Lungs were the highest in Assam (1.56) and Andhra Pradesh (1.50). Deaths among Influenza patients were practically nil except in Bihar.

The following table gives the important specific diseases judged from admission rates, in order of importance in different States during 1957: —

State	Name of diseases
1. Andhra Pradesh ..	Malaria, Influenza, Dysentery, other respiratory diseases Anaemia and Debility.
2. Assam	Dysentery, Influenza, Malaria, Diarrhoea, Pyrexia of uncertain origin, Anaemia and Debility and other respiratory diseases.
3. Bihar	Influenza, Malaria, Other respiratory dieases, Diarrhoea, Aaaemia and Debility.
4. Kerala	Influenza, Pyrexia of uncertain origin, Anaemia and Debility, Dysentery, Respiratory diseases, Other deficiency diseases.
5. Bombay	Influenza, Malaria, Dysentery, Other respiratory diseases and Anaemia and Debility.
6. Jammu and Kashmir ..	Information not available.
7. Madhya Pradesh ..	Information not available.
8. **Madras**	Influenza, Dysentery and Diarrhoea, Other respiratory diseases, Malaria and T.B. of Lungs.
9. Mysore	Other respiratory diseases, Influenza, Malaria, Dysentery and Diarrhoea, Anaemia and Debility and Other deficiency diseases.
10. Orissa	Malaria, Diarrhoea and Dysentery, Deficienoy diseases; Respiratory diseases.
11. Punjab	Influenza, Malaria, Other respiratory diseases, Pyrexia of uncertain origin, Dysentery and Diarrhoea, Anaemia and Debility, T.B. of Lungs, pneumonia and Enteric fever.
12. Rajasthan	Diarrhoea and Dysentery, Malaria, Respiratory Diseases. Anaemia and Debility.
13. Uttar Pradesh ..	Detailed break up is not available.
14. West Bengal	Influenza, Pyrexia of the uncertain origin, Other respiratory diseases, Dysentery and Diarrhoea, Anaemia and Debility and Malaria
Union Territories—	
1. Andaman & Nicobar Islands.	Not available.
2. Delhi	Pyrexia of the uncertain origin, Other respiratory diseases, Dysentery, Anaemia and Debility, and T.B. of Lungs.
3. Himachal Pradesh ..	Other Respiratory diseases, Other deficiency diseases Anaemia and Debility, influenza, Malaria and Dysentery and Diarrhoea.
4. Tripura	Dysentery and Diarrhoea, Respiratory Diseases, Influenza and Pyrexia.
5. Manipur	Information not available.
6. Pondicherry	Information not available.

The case fatality rates of any particular diseases, i.e., the deaths per 100 of hospital admissions are presented in Table No. 18. It was for T.B. of Lungs highest in the States of Assam and Rajasthan and for other respiratory diseases, in Madras and Mysore. Cholera recorded the highest in Uttar Pradesh, Enteric fever in Orissa and Smallpox in Bombay. The rates for Influenza were negligible in jails.

Facilities for recreation, and library facilities were available in the jails of almost all the States. Radio sets were introduced in all the States. Many others such as newspapers and library, and outdoor and indoor games are found in all the jails. These are meant to keep the prisoners fully occupied in jails and provide conducive atmosphere for correctional treatment. During the year under report, important reforms were undertaken in some States. They were as follows:—

Andhra Pradesh—Rules have been made for release of prisoners on furlough.

Kerala:—Removal of handcuffs, wages system and liberalisation of remission were introduced in Kerala.

Orissa—For psychological study of criminals in jails a few members of Custodian staff are given training in criminology, juvenile delinquency and correctional administration.

Uttar Pradesh—A new scheme of mental health programme was started. 49 prisoners were released on one year's parole for employment in the Terai State Farm. Their release was made absolute if their conduct during parole was satisfactory.

Health Units:

A number of Health Units have been functioning in the rural areas all over the country. Primarily, they are intended to disseminate information on public health matters to the common man and to act as demonstration centres. Incidentally, they would improve general health condition in the area and provide medical facilities to the population. Following is the brief account of the activities of the Demonstration and Health Training Centres (of the type of Najafgarh or Singur Health Unit) functioning in the States. Figures of the Health personnel employed, vital statistics and Maternity and Child Health Centres and its activities in different Units are given in the table Nos. 19 to 23.

Health Training Centre, Ramanagaram (Mysore State):

Health Training Centre, Ramanagaram has been in existence for the last 20 years. The staff employed consist of one Medical Officer of Health, one Lady Assistant Surgeon (Grade I), 3 Assistant Medical Officers of Health, 6 Senior Health Inspectors, 3 Junior Health Inspectors, 2 Vaccinators, 5 Public Health Nurses, 20 Midwives, 4 Compounders and one Nursing Supervisor.

The Unit extended over 134 villages with a population of 84,637 and covers an area of 113 square miles. The birth, death, infant mortality and maternal mortality rates were 38.5, 13.3, 114.1, and 6.6 respectively for the Unit area during the year under report. The percentage of still-births among total births for the unit was 3.2.

During the year under review 19 cases and 5 deaths due to smallpox; 35 cases and 35 deaths due to T.B.; 2 cases and 2 deaths due to Leprosy; 3 cases and one death due to Enteric fever; 620 cases and 76 deaths due to other fevers; 313 cases and 137 deaths due to Dysentery and Diarrhoea, 63 cases and one death due to Whooping Cough; 52 cases and 2 deaths due to Chickenpox; 101 cases and 17 deaths due to Measles, one case and one death due to Mumps were reported from the Unit area. 139 anti-cholera inoculations; 4,404 primary, 25,044 re-vaccinations against smallpox and 57 anti-typhoid were done during the year.

Maternity and Child Welfare Centres—One Maternity and Child Welfare Centre having Maternity Home with 10 beds was functioning during the year. The activities of Maternity and Child Health Staff employed are detailed below:—

1. No. of Maternity clinics conducted	322
2. Attendance at the clinics	10,021
3. No. of mother classes held	1,627
4. No. of Home visits paid by the maternity staff of the Unit—	
(*i*) Pre-natal	29,283
(*ii*) Post-natal	9,905
(*iii*) Pre-school	12,379
5. Nursing Mothers	9,905
6. Other visits	9,258
7. No. of deliveries conducted by the Unit staff	1,870

Skimmed milk powder, drugs and diet supplements from UNICEF continued to be distributed to the needy and deserving people regularly in the Maternity and Child Health Centres. The Nursing Project was jointly started by the W.H.O. and UNICEF to train auxiliary Nurses, Midwives and the first batch was trained during the report under review.

Sanitation and Water Supply—4 draw-wells were newly constructed and 3 were repaired, 134 villages were cleaned and 60 latrines were filled with water-seal squatting stabs during the year under report.

1,412 students were examined by the staff of the unit and 26 were found to be defective due to malnutrition, bad teeth, ear, nose, throat trouble and eye defects and others.

In the training programme, 13 persons were trained of which 9 were medical officers of health.

It may also be mentioned that during 1957, Family Health Survey was conducted. The object of the survey was to assess the health needs of individual families and their fulfilment.

Sirur Health Unit (Bombay):

The Unit was established in 1940 and completed 18 years of activity. The staff employed consist of one Medical Officer of Health, one Assistant Medical Officer, 3 Public Health Nurses, and 13 Midwives.

The Unit extends over 64 villages with an estimated population of 95,408 and covers an area of 492 square miles. The vital statistical rates for the unit area is as follows:—

Birth rate	42·5
Death rate	14·8
Infant Mortality per 1,000 of live birth	98·0
Maternal mortality rate per 1,000 of live and still births	2·2
Percentage of still births among total births	1·5

To detect any omissions sanitary inspectors always conduct a survey and during the year under report, 244 births and 54 deaths were found omitted.

Maternity and Child Welfare Centres—8 Maternity and Child Welfare Centres with 2 maternity homes having 18 beds were functioning at the end of the year under review. The activities of the staff are detailed below:—

No. of maternity clinics conducted	520
Attendance at the clinic	7,531
No. of mother classes held	6
No. of home visits paid by the maternity staff of the Unit—	
Pre-natal	4,328
Infant	12,546
Pre-school	9,694
Post-natal	5,941
Other Units	2,169

Dry milk powder was distributed at seven centres on weekly basis. The total number of beneficiaries were 4,000.

During the year under review 302 Sanitary Inspectors, 8 Subsidised medical practitioners and 76 Health visitors were trained in the Unit.

During 1957, there was an epidemic of Cholera and Influenza in the Unit area. Total number of attacks due to the diseases were 244 and 773 respectively. Cholera affected 29 villages. 64.598 anti-cholera inoculations, 3,726 primary and 8,443 re-vaccinations were performed by the health staff of the unit.

The death rates per 1,000 population (based on the estimated population of 1957) were as follows:—

Senility	388
Pneumonia	225
Tuberculosis all types	104
Dysentery	94
Gastro-enteritis	42
Cholera	32
Enteric fever	31
Malignant neoplasm	26
Rheumatic fever	14
Other diseases	211

Poonamalle Health Unit (Madras):

The Poonamalle Health Unit which was started in October 1935 was reorganised in 1946 and expanded to constitute an integrated health service and to serve as a field training centre for all categories of medical and health personnel. The staff employed consist of one health officer, one medical officer (M.C.H.), one Civil Assistant Surgeon (Incharge of Family Planning), one Resident Matron, 5 Health Visitors, 5 Health Inspectors, (one for vital statistics and another for Family Planning), 18 Maternity Assistants, 18 Ayahs, 4 Health Assistants, 4 Public Health Mistries, 46 Public Health Menials, 12 Peons, 2 Fitters, 1 Driver, 2 Upper Division Clerks, 1 Typist, one Attendant, 2 Watchmen and 1 Public Health Assistant Engineer.

The unit extends over 36 villages with a population of 61,523 (1951 census) and covers an area of 35 square miles. The birth and death rates in the unit area during the year under report were of the order of 46.9 and 25.5 per mille of (1951 census) population as against 44.8 and 18.1 during

1956. The infant mortality rate per mille of live births worked out to be 147 as against 120 during 1956, and maternal mortality rate per mille of live and still births was 1.7 as against 0.9 during 1956. The percentage of still births among total births recorded to be 3.6 as against 2.7 during the previous year. The high birth and death rates were due to better registration of vital events for which a health inspector was appointed.

During the year under review 1,425 deaths were recorded, out of which 6 deaths due to Cholera, 5 deaths due to Smallpox, 347 deaths due to Dysentery and Diarrhoea, 3 deaths due to Malaria, 342 deaths due to fever and 642 deaths due to all other causes were recorded for the unit area. 8,637 anti-cholera inoculations, 42 anti-typhoid inoculations, 2,796 primary and 16,604 re-vaccinations against Smallpox were done.

Maternity and Child Welfare Activities—The unit has seven Maternity and Child Welfare Centres at Poonamalle, Thirumishi, Pottai, Mangada, Kunrathur, Kevur and Pattu. Except in Pattu, there is a maternity home with beds in each of Maternity and Child Welfare Centres. The total bed strength is 32.

The activities of the Maternal and Child Health staff are shown below:—

No. of maternity clinics conducted	531
No. of deliveries conducted	2,334
Attendance at the Clinic —	
Ante-natal, old and new	11,329
Nursing mothers	18,670
Infants	7,992
Pre-school	16,006
Other activities	3,678
No. of mother classes	24,170

UNICEF—The skimmed milk powder gifted by UNICEF was distributed among 10 schools in the health unit area among 800 children, on an average daily.

Rural Health Unit and Training Centre, Singur (West Bengal):

The Rural Health Unit and Training Centre, Singur has been in existence since 1939. The staff of medical and public health personnel employed in the unit consist of 9 medical officers, 3 Lady Medical Officers, 2 Sanitary Inspectors, 3 Public Health Nurses, 3 Lady Health Visitors and 5 Midwives.

The unit covers 105 villages with a population of 95,000 (1951 census). The birth, death, infant mortality rates and maternal mortality rate for the unit are given below:—

1. Birth rate per mille of population	32·69
2. Death rate per mille of population	7·35
3. Infant mortality rate per 1,000 of live births	69·58
4. Maternal mortality rate per 1,000 of live and still births	2·17

20 cases and 4 deaths due to cholera, 107 cases and 34 deaths due to Smallpox, 3 deaths due to Malaria, 19 cases and 7 deaths due to Enteric fever, 105 cases and 2 deaths due to T.B., 60 deaths due to Dysentery and Diarrhoea, 2 deaths due to Maternal causes and 32 cases and 4 deaths due to Diphtheria were reported from the unit during the year under review.

There was an influenza epidemic in Singur area and 51.93 per cent of the families visited during the survey were found to have been affected during the nine weeks that the epidemic lasted. The total attack rate per mille from the disease in Singur among surveyed population was 234.2. The mortality was nil. 1,000 leaflets each on Cholera and Smallpox were distributed. 23,124 anti-cholera inoculations, 7,025 primary and 31,274 re-vaccinations against Smallpox, 6,539 anti-typhoid, 350 anti-diphtheria and 1,284 B.C.G. vaccinations were performed.

Maternity and Child Welfare Centres—4 Maternity and Child Welfare Centres were functioning during the year. One maternity ward was attached with Nasibpur U.H.C. having 6 beds. Milk was distributed to school children. Market, sweet, meat shops and other eating homes were inspected for sanitation.

Training Programme—1,652 medical students were trained in different courses. 44 sanitary inspectors, 40 assistant surgeons, 6 dais, 13 health visitors and 32 persons in first aid were trained during the year under review.

Medical College Unit, Cheruvikkal (Kerala State):

Medical College Unit, Cheruvikkal was started on the 16th June 1953. The staff employed consist of 2 doctors, 2 inspectors, 3 public health nurses, 4 health visitors, 3 public health midwives and 4 health assistants.

The unit extends over an area of 18.8 square miles and covers 5 villages. The vital statistics for the unit area is given below:—

1. Birth rate per mille of population	29·7
2. Death rate per mille of population	9·8
3. Infant mortality rate per 1,000 of live births	12·7
4. Maternal mortality rate per 1,000 of live and still births	—
5. Percentage of still births among total births	2·7

A total of 228 cases and 115 deaths were recorded in the unit area of which 24 cases and 10 deaths were due to Smallpox, 30 cases and 3 deaths due to Enteric fever, 23 cases and 11 deaths due to Dysentery, 75 cases and 6 deaths due to Diarrhoea, 4 deaths due to maternal causes, 76 cases and 76 deaths due to "other fevers" and 4 deaths due to other causes during the year under report. During the year, 202 anti-cholera inoculations, 196 anti-typhoid, 2,161 primary and 17,587 re-vaccinations against Smallpox were performed.

Maternity and Child Welfare Centres—6 Maternity and Child Welfare Centres were functioning in the unit area. The activities of the M.C.W. staff are detailed below:—

No. of maternity clinics conducted	414
Attendance at the clinics	15,144

No. of home visits paid by the maternity staff of the Unit:

1. Pre-natal	9,815
2. Ante-natal	3,753
3. Pre-school	4,323
4. Nursing mothers	2,382
5. Other visits	

290 deliveries have been conducted by the unit staff and the following staff employed for maternity and child welfare work in the unit: —

Lady medical Officer	1
Health Visitors	4
Nurses (Public Health)	1
Midwives	6
and other staff	23

Milk and vitamin tablets were distributed to about 550 children per day. About 365 school children were examined.

Training Programme—During the year 50 Sanitary Inspectors were trained at the unit. Under the school Health Programme, 365 students were examined by the staff and 234 were found to be defective due to malnutrition, bad teeth, etc.

Health Services for Railways:

Each railway has its own medical and public health organisation which caters to the needs of its staff and looks after the sanitation and other public health matters of its railway stations and Railway colonies.

Medical facilities provided in all the railways are on the whole, satisfactory. Each railway has well-equipped hospitals and dispensaries, some of which have facilities for X-ray diagnosis and advanced methods of treatment. As far as T.B. is concerned, extra provision is made by reserving beds in nearest institutions.

Table No. 24 gives the number of hospitals, dispensaries, sanatoria of clinics, beds available for in-patients and the number of beds reserved for T.B. patients for each railway administration in 1957, alongwith the corresponding figures for 1956. It will be observed therefrom that during the year under report, there was an increase of one hospital each in the Northern and North-Eastern Railways and that number of dispensaries slightly increased in all railways except in Eastern Railway. It is important to note that the number of beds for T.B. patients reserved in other institutions significantly increased in the majority of railways in comparison with the year. 1956, the totals being for all the railways together 281 and 509 during 1956 and 1957 respectively.

Table No. 25 gives the comparative figures of maternity and child welfare centres with number of beds available and staff employed by them together with the work done during the years 1956 and 1957. The numbers of Maternity and Child Welfare Centres registered increase in Eastern Railway and South-Eastern Railway and similar is the case in Western Railway for the number of beds. Otherwise, the position remained more or less steady in comparison with the previous year. Mother classes held registered decrease in all the railways except in Western Railway.

Table No. 26 shows the medical and health staff employed in different railway administrations during the years 1956 and 1957. In all the railways it is interesting to note that there was increase in staff in all categories. To this extent the services provided in the railways improved. The total expenditure in different railways is shown in Table No. 27 showing separately for medical and public health departments. It is encouraging to note that more money was expended during the year under review in all the railways.

A summary of health activities in each of the railways administration based on the reports received from their Chief Medical Officers, is given below: —

Central Railway

For the year under report, 664,869 patients due to different causes were treated in 10 hospitals and 51 dispensaries as against 483,771 treated in 12 hospitals and 50 dispensaries during the year 1956. A comparative statement of figures of cases and deaths due to different causes during the years 1957 and 1956 are given in the Table No. 28. From the statement it will be observed that diseases most prevalent were Malaria and Dysentery and Diarrhoea and Fevers and these were responsible for 27,498 and 65,154 cases respectively and the incidence was higher than during the previous year in both the cases. More injuries were also recorded during the year under review than during the previous year. Special anti-malarial measures were taken in endemic areas for 6 months in a year by way of distribution of Paludrine for suppressive treatment and spraying of quarters, service buildings etc. D.D.T. special staff was appointed for the purpose.

During the year 15,375 lbs. of D.D.T. was used. Other preventive measures, i.e., anti-cholera inoculations, small-pox vaccinations, anti-plague inoculations and typhoid inoculations performed during the years 1957 and 1956 are given in Table No. 29.

Sanitary conditions in stations were under constant supervision and remained satisfactory throughout the year. Adequate arrangements were made to safeguard the health of passengers attending fairs and festivals of which 60 stations were affected.

During the year concessions continued to be granted to employees out of the Staff Benefit Fund in regard to hearing equipment, artificial limbs and maintenance grants to T.B. patients. As regards public health activities, it is seen that only 80 stations were having protected water supply and at the remaining 919 stations water pipes provided from wells. The supply of genuine food was satisfactory, as judged by the percentage of samples found genuine. It is gratifying to note that measures to implement the prevention of Food Adulteration Act, 1954 were underway.

Northern Railway

Two new dispensaries were opened at Lajpat Nagar and Sandari during the year under review. Construction of 130 bedded Central Hospital, New Delhi was completed and the construction of a 25 bedded hospital at Jodhpur was in progress. Chest clinics were started in Lucknow, Allahabad, Moradabad, Delhi and Ferozepur Divisions. Three Mobile medical dispensaries were also started at Bikaner, Bhatinda and Jodhpur.

During the year under report 1,139,850 cases were treated in 13 hospitals and 76 dispensaries. Out of the total patients treated a large number of cases were of Fevers, Malaria, and Dysentery and Diarrhoea. Influenza spread in epidemic form during the year under review. Only 186 deaths in all were reported.

During the year 40 anti-malaria units were operating as against 31 during 1956, and its operations were consequently widened. 89,714 houses were sprayed and 4,728 lbs. of D.D.T. was used. Other preventive measures i.e. anti-cholera inoculations, smallpox vaccinations and other inoculations were higher than in the previous years.

There are 442 stations at which water supply was open to infection. It should, however, be noted that food supplies inspected by Medical Officers and Sanitary Inspectors were satisfactory.

During the fairs and festivals suitable medical and sanitary arrangements were made by the railway. The general health of the staff and their families was quite satisfactory. St. John Ambulance Brigade was constituted in the railway during the year under review. At many a station, sanitation improved on account of transfer of responsibility from the Traffic Department to Medical Department.

Southern Railway

During the year under review the bed strength in Railway Hospitals was increased from 479 to 566. It is proposed to provide a bed strength of 5 per thousand of employees by the end of the Second Plan. One new hospital at Mysore South and one additional dispensary at Telgi were opened.

The number of maternity beds were also increased—from 5 to 19. Reservation of T.B. beds increased from 30 to 69. In all the divisional hospitals, dental and chest clinics were established. A new 200 MA X-ray Diagnostic Unit was installed during the year under report. In all cases attended to due to all diseases only 234 deaths occurred. Of the total number of cases, the major number was due to Dysentery and Diarrhoea and other fevers. The high number in the group of "other fevers" may be due to the epidemic of Influenza in the railway premises during the month of May and June, 1957. Injuries increased from 120,371 in 1956 to 139,651 in 1957. Cholera and Smallpox was almost absent.

The number of stations having protected water supply was 151 and the problem of providing such a facility to other stations was under consideration. The food supplies were satisfactory.

Krishna Pushkarama festival took place in the year under review. Elaborate sanitary arrangements like extra temporary passenger sheds, latrines, urinals, additional water taps, etc., were provided. General health of railway population was satisfactory. 10,500 houses were sprayed and the total D.D.T. used was 5,660 lbs. B.C.G. activities registered an increase this year. It was also reported that housing conditions continued to be acute and most of the quarters were over-crowded. The health of the railway staff was satisfactory.

Western Railway

1,020,314 patients were treated in 10 hospitals and 65 dispensaries. Comparative figures of cases and deaths due to different causes recorded in dispensaries of the Western Railway during the year 1956 and 1957 is given in table No. 28. Malaria, Dysentery and Diarrhoea and 'other fevers' accounted for a large percentage of cases. Prompt measures were taken in cases of epidemics by way of mass inoculations, vaccinations and re-vaccinations. Number of beds in hospitals and dispensaries slightly increased and the number of dispensaries rose from 59 in 1956 to 65 in 1957. The number of beds for maternity and child welfare also increased from 58 in 1956 to 70 in 1957. The annual expenditure in 1957 increased by nearly 6 lakhs.

The food supplies could be said to be extremely good. The water was periodically chlorinated at all stations. All suitable arrangements for cleanliness and prevention of spreading infectious diseases were made to cope with increased traffic during times of fairs and festivals. Two more Brigade Divisions were added to the district, and there were 10 divisions in all with increased registered strength. During the year under report steady progress was maintained in imparting training in First-Aid. The construction of hospitals in the Divisional Headquarters, wherever they were not available, were under construction. A headquarters hospital at the Bombay Central was under construction.

Eastern Railway

A mass miniature X-ray machine was installed at B. R. Singh Hospital, Sealdah for control of Tuberculosis and three camera Units, one each at Asansol, Dinapore and Jamalpur were provided. The construction of a female-ward with provision of 16 beds at Jamalpur was taken in hand and was nearing completion. A Child Welfare and Maternity Centre at Kanchrapara was under construction.

The number of Chest clinics under the railway increased from 5 to 10. Similarly, the number of T.B. beds in other sanatoria increased from 55 to 125 and the number of beds in these dispensaries from 60 to 100. Besides, the number of Maternity and Child Welfare Centres increased from 21 to 37.

It was gratifying to note that no outbreak of infectious or epidemic diseases occurred during the year under report. However, the usual preventive measures were undertaken.

The total number of cases attended to were 608,259 and the number of deaths were just 344 only, the lowest in absolute value of all the railways. In line with other railways, Dysentery and Diarrhoea accounted for the highest percentage of cases. Malaria recorded the least number of cases in this railway.

The food supplied at these stations were for the most part genuine. The number of stations and colonies having protected water supply was 441 as against the number of 185, where water supply was open to infection.

The number of railway stations affected by melas increased to 31 in 1957 as against 29 during 1956. All precautions, were taken against epidemics.

The sanitation at the railway, mostly managed by the Traffic Department was on the whole satisfactory, and the general health of the staff and their family remained satisfactory.

There were 12 Medical vans and 34 accident relief medical equipments were provided at important stations.

North-Eastern Railway

The 16 bedded hospital under construction at Siliguri junction was completed. The district hospitals at Gorakhpur, Gauhati and Lumding were each provided with a Camera Unit. A chest clinic each at Gorakhpur and Gauhati was constructed and 7 more chest clinics were expected to be taken up during the works programme 1958-59. 4 Mobile dispensaries were added, one each in Gorakhpur, Samastipur, Gauhati and Lumding.

During the year there was no outbreak of any communicable disease in an epidemic form. Sporadic cases of Smallpox were reported from some of the districts. All preventive measures such as inoculations and mass vaccinations were taken in affected areas. The Influenza epidemic, however, broke out in this area from June 1957 and caused large scale sickness amongst the staff. All preventive measures were taken to prevent the disease. Although the incidence was high, yet mortality was nil. The general health of the staff and their families was satisfactory.

During 1957, 762,309 cases were treated as against 638,397 during 1956. Dysentery and Diarrhoea accounted for the highest, followed by 'other fevers'. Number of deaths that occurred were 307 in all.

The number of hospitals and dispensaries slightly increased and the number of beds in hospitals rose from 481 to 551. 42 seats were reserved for T.B. patients in other sanatoria as against 29 in 1956.

Family Planning was included as an integral part of the Child Welfare and Maternity Centre and appliances and jellies were provided free of cost. Response was indeed encouraging.

The sanitary conditions at railway stations continued to be satisfactory as well as the health of railway employees and their families.

Modified courses for illiterate staff in First-Aid were introduced and proficiency certificates were issued. In all 767, such certificates were awarded.

South-Eastern Railway

The number of hospitals and their bed capacity remained the same as in the last year. But number of dispensaries and health centres slightly increased.

923,934 patients were attended to in 7 hospitals and 56 dispensaries. The deaths were 149 in all. Dysentery and Diarrhoea and other Fevers constituted the highest percentages of cases.

Increased vaccination against Smallpox, Typhoid, Cholera and Plague was undertaken during the year under review in comparison with the previous year. Anti-malarial measures were effectively taken. Suppressive treatment of Paludrine was given at 35 stations in Hyperendemic areas and to engineering gangmen. Arrangements at stations affected by fairs and melas were quite satisfactory. The health of employees continued to be satisfactory.

The question of formation of St. John Ambulance Brigade was under consideration. In all 3,871 staff were given training in First-Aid including refresher courses.

Chittaranjan Locomotive Works

Full facilities were given to the employees and their family members. A dental clinic started functioning since September 1957. Further, an officer of the K. G. Hospital was sent for training in family planning. Besides, one Radiographic camera Unit was installed in Chest Clinic and one Tuberculosis Health Visitor was appointed.

6 beds were reserved in the isolation ward of the K. G. Hospital, besides the 12 beds reserved in K. S. Ray T. B. Hospital.

There was no incidence of Cholera or Plague. Only 3 cases of Smallpox were reported. In all 67,164 cases were treated out of which Dysentery and Diarrhoea accounted for 6,297 cases and 'other fevers' 4,404.

Public health activities and other malaria activities continued to be efficient. Medical staff and nursing slightly increased in the year under review and expenditure was slightly higher than in 1956.

Ganga Bridge Project

There was no outbreak of epidemic diseases in any project camps or in labour camps of contractors due to extensive precautions measures undertaken.

Sanitary and malaria inspectors were utilised to inspect regularly vendors and shopkeepers and canteens run by authorised contractors were regularly inspected.

Proper training in First-Aid was given to supervisory staff, although there is no St. John Ambulance. As the project is purely temporary no extra facilities, *viz.,* X-ray were provided.

Sanitation and health of employees was normal. The total number of cases treated were in all 19,662 as against 24,180 in 1956. Dysentery and Diarrhoea counted for the highest percentage.

Health Education:

The Central Health Education Bureau was established in October 1955. After the A.D.G.(H.E.) took charge of the Bureau in November 1956, a survey of the existing resources and the work that had been done in the previous Health Publicity Section was carried out and a programme of activities was drawn up.

During the year 1957. the Bureau participated in various training programmes, conferences, and discussions including following four important events :

(i) In the conference of the Principals of Teachers' Training Institutions, held at Bangalore, it was decided that in the revised syllabus of the B.Ed. course Health Education would be included. The Bureau also recommended Government of Mysore to include Health Education in Primary and Secondary School syllabi.

(ii) The Bureau organised and conducted "Health Week" in collaboration with the W.H.O., at Delhi.

(iii) The Bureau participated in Children's Day celebrations and brought out a special number of "Swasth Hind" on the theme "Hungry Child must be fed".

Six new posters relating to children's health and welfare were designed for exhibition at the Children's Fair organised by the Delhi State Council for Child Welfare on 13th November 1957.

(iv) A scheme for the establishment of State Health Education Bureaux as per resolution of the Central Council of Health was worked out and sent to the State Directors of Health Services for their opinion.

The Bureau brought out 9 pamphlets and one folder in English and 2 pamphlets and one folder in Hindi besides 4 posters in 1957.

During 1957. 791 films and 36 film strips were loaned to 193 organisations in the country. The Bureau programmed to evaluate educational films by organising a mobile audio-visual unit. The most popular films in their order of precedence were:—(i) Family Planning, (ii) Planned

Parenthood, (iii) Cleanliness brings health, (iv) Water—Friend or Enemy, (v) Dirty Habits, (vi) Mosquito menace, (vii) Festival times, (viii) Winged Scourge (Malaria).

The publication of "Swasth Hind" a monthly Health bulletin was started in 1957. A special number on "Nutrition of Children" to celebrate Children's Day throughout the country was the outstanding contribution of the year. Health Education special number was also brought out in December 1957. The Journal interprets the programmes and policies of the Central Health Ministry.

A number of Photographs on various subjects were collected and classified.

The building of the Central Health Education Bureau scheduled to be a three-storeyed building had as an economy measure been sanctioned for the ground floor only during the year 1957.

The set up of the Bureau, consisting of Media and Method Division was approved by the Ministry of Health. The Media Division consisted of four Sections—Editorial Art and Photography, Museum and Exhibition and Audio-visual was organised during the year.

During the year 1957 the Bureau rendered technical advice to the Assistant Director of Health Publicity, Uttar Pradesh for organising Children's Health Exhibition and on certain aspects of health education work in that State.

Technical advice was also given to the Secretary, Indian Red Cross Society, Madras, regarding the syllabus of Health Education in the training of Medical and Social workers.

The staff of the Bureau accompanied the Chief Executive Officer visiting the Vigyan Mandir and discussed how the Central Health Education Bureau could help Vigyan Mandir in the dissemination of scientific knowledge to the people.

Technical advice was also rendered to the officers who were awarded W.H.O. Fellowship in Health Education before leaving for U.S.A.

The Bureau collected and selected suitable health Education material from all over India. The selected material was sent for exhibition at the 10th Annual Conference Regional W.H.O. South East Asia at Rangoon.

Establishment of State Health Education Bureaux—The scheme for establishment of the State Health Education Bureau, as per resolution of the Central Council of Health was worked out and sent to the State Directors of Health Services, for their opinion. The scheme also included starting of Health Education Demonstration Centre as recommended by the Health Education *ad hoc* Committee of the Ministry of Health's Co-ordination Committee.

The Central Health Education Bureau assisted the State to:—

(i) develop or start the State Bureau of Health Education,
(ii) produce or obtain educational aid,
(iii) arrange training in Health Education for their personnel,
(iv) integrate health education into their various health programmes,
(v) appraise the effectiveness of their programme.

Primary Health Centres in National Extension Service Blocks:

No separate provision for health services in National Extension Service Blocks was made in the original First Five Year Plan. A sum of Rs 50 lakhs was provided in the revised First Five Year Plan of the Ministry of Health for the grant of subsidy to States for opening primary health centres in National Extension Service Blocks. The scheme envisaged the establishment of a health centre with a dispensary at the headquarters of the block area with an average population of 66,000 from where a team of health workers would cover the surrounding areas, looking after the health needs of the area in both curative and preventive aspects. 74 centres were established during the first Five Year Plan period by various States and a sum of Rs. 7.70 lakhs was given as central assistance.

The provision of adequate health protection to the rural population was left by far the most urgent need to be met in the Second Five Year Plan. In view of the programme for extending the National Extension Service to the entire rural population, the establishment of primary health units in as many development blocks as possible was a necessary step towards providing an integrated preventive and curative medical service in rural areas.

The ultimate success of the health unit programme depends upon the extent to which the essential services are provided. These are:—

(1) Institutional and domiciliary medical care, with adequate emphasis on its preventive aspects, amongst others, maternal and child health, school health, control of communicable diseases.

(2) Environmental Sanitation.

(3) Health Education.

(4) Improvement of Vital and Health Statistics and

(5) Family Planning.

During the Second Five Year Plan, a provision of Rs. 19 crores was made for the establishment of 2,000 primary health centres in National Extension Service Block areas. Each health centre was to consist of one medical officer, one health visitor/public health nurse, 4 midwives, one compounder, one sanitary inspector and other ancillary staff. The Central Government was to give the States 75 per cent of the initial non-recurring expenditure up to a total of Rs. 37,200 on each centre out of which Rs. 30,000 was towards buildings and the balance towards equipment, furniture, bedding and clothing etc. In respect of recurring expenditure the Central Government agreed to pay up to Rs. 50 per cent of such expenditure on a tapering basis which was estimated at Rs. 32,300 per centre per year. 150 health centres were established in National Extension Service Blocks during 1956-57. The total grant-in-aid paid to the State Government during the year 1957 was Rs. 35,26,850.

The centres in National Extension Service Blocks were over and above those opened during this period in community project areas. There were 1,112 Primary Health Centres of all categories in various States during the year 1957.

Adulteration of Food:

The Prevention of Food Adulteration Act, 1954, was brought into force on the 1st June 1955.

The Central Committee for Food Standards was established with effect from the 1st June 1955, under Section 3 of the Act, to advise the

Central Government and State Governments on matters arising out of the Administration of the Act and to carry out other functions assigned to it under this Act.

The Central Food Laboratory required to be set up under Section 4 of the Prevention of Food Adulteration Act, 1954, was established temporarily at the All India Institute of Hygiene and Public Health, Calcutta, with effect from the 1st June 1955, pending the construction of a permanent building for the Laboratory at Calcutta. The constructions of the building is likely to be completed very shortly.

The Enforcement of Food Adulteration Act in any State requires Laboratory and Public Analyst for testing food samples. Statement regarding the number of food samples examined, found adulterated and the number of prosecution launched and fines realised thereon in different States during the year 1957 is shown in Table No. 30.

Andhra Pradesh—The Prevention of Food Adulteration Act, 1954 passed by the Central Government has been in force in the Andhra Region of the State since June 1955. The Government of Andhra Pradesh issued rules under Section 24 of the Prevention of Food-Adulteration Act, 1954, entitled Prevention of Food-Adulteration Rules, 1957 and they were to be enforced from 10th April 1958 in the whole State of Andhra Pradesh. 6,729 samples were examined of which 2,367 samples were found adulterated during the year.

Assam—The Prevention of Food Adulteration Act, 1954 (Act 37 of 1954) and the Prevention of Food Adulteration Rules, 1955 were in force in the State. The Civil Surgeons (Public Health) Health Officers, Sanitary Inspectors, Health Inspectors, Medical and Public Health Officers and Railway Medical Officers acted as Food Inspectors. Water and skimmed milk were generally the adulterants used in milk. Out of 568 samples 307 samples were found adulterated.

Bihar—The Prevention of Food Adulteration Act, 1954, and the Prevention of Adulteration Rules 1955 was in force in the State. The Medical Officers of Health, Assistant Health Officers, Sanitary Inspectors and the Health Inspectors were delegated powers of the Food Inspectors. 495 samples proved adulterated when 1937 samples were sent for examination.

Kerala—The Prevention of Food Adulteration Act, 1954 was in force in the State. The Municipal Health Officers, the Sanitary Inspectors and the Health Inspectors were delegated the powers of Food-Inspectors. 3,432 samples of food stuffs were examined and of them 1,018 were found adulterated.

Madhya Pradesh—The Prevention of Food Adulteration Act, 1954 was brought into force in the State with effect from 1st June 1955. It extends to the whole of Madhya Pradesh. The powers under the act for dealing the adulteration of food stuffs, has been vested with Civil Surgeons, District Medical Officers, Health Officers and Sanitary Inspectors. The facilities for examining food samples exist in Drugs Testing Laboratory, Indore; State Laboratory, Bhopal; Food Laboratory, Raipur; Public Health Laboratory, Rewa; Analytical Laboratory, Indore; and Analytical Laboratory, Jabalpur.

Madras—Two municipalities in Kanya Kumari district and 19 panchayats in other districts were permitted to send samples to the Public Analyst under the Prevention of Food Adulteration Act from 1st April

1957 bringing the total number of local bodies that can send samples for analysis to 145. Out of 20,217 food samples examined in Central Food Laboratory, 4,566 were found adulterated or otherwise unsatisfactory.

Adulteration was high in sweets, drinks, butter, dalda and milk.

Orissa—The Orissa Prevention of Adulteration and Control of Sale of Adulterated Food Act, 1938 was in force. The Central Food Act, 1954 could not be implemented as rules under the Act were not framed. Out of 1,355 samples 391 were found not up to the specification.

Medical Officers of Health and Health Inspectors were delegated with powers of Food Inspectors. Out of 1,355 samples examined, 391 were found adulterated. A separate Public Health Laboratory has been established for examination of food and water samples.

Rajasthan—Prevention of Adulteration of Food Act, 1955 and rules made therein was in force in the State. All Sanitary Inspectors, Health Officers, Principal Medical and Health Officers, District Medical and Health Officers, and Assistant Director of Health Services, have been delegated the powers of Food Inspectors. There were two laboratories at Jaipur and Jodhpur for the examination of food samples.

Uttar Pradesh—5,013 persons were prosecuted for selling adulterated or sub-standard articles of food-stuffs, of whom 3,398 were committed and fined. During the year, 56 samples of colour or coloured vanaspati were received for test with a view to find out if any of these colours or added colour has been suitable for colouring vanaspati but none was found to be suitable for the purpose in view. However, the search for a suitable colour was being pursued.

Andaman and Nicobar Islands—Adulteration of food stuff is not in existence here as most of the food stuffs are imported from the main land from reliable firms. Out of 3 samples examined, none were found adulterated.

Himachal Pradesh—The Prevention of Food Adulteration Act, 1954, was enforced in this Pradesh. Necessary rules under this Act were under preparation. So regular prevention could not be launched.

Industrial Health:

With the advent of Independence, certain assurances were given to labour in recognition of its rights which had long been neglected. Progress has been made in the implementation of the social security measures provided under the Employees' State Insurance Act 1948. Care, comfort and security when given to the industrial workers lead to increased production and harmony in industrial undertakings.

Employees' State Insurance Scheme was accepted in Andhra Pradesh, Bombay, Delhi, Kerala, Madhya Pradesh, Madras, Punjab, Rajasthan, and Uttar Pradesh.

Summary of the report from the provinces on the subject Industrial Health is given below. From the reports it is obvious that a good deal has yet to be done before the ideal standards could be achieved.

Andhra Pradesh—

Factories and Mines—There are 537 seasonal and 2,188 non-seasonal factories. About 50 per cent of the factories had been inspected by District Health Officers and Municipal Health Officers acting as Additional Inspectors of Factories.

There are 229 mines in the districts of Srikakulam, Nellore, Chittoor, Kurnool, Cuddapah and Anantapur. The Health Officers inspected most of these mines.

During the year no epidemics were reported from any of the factories or mines and the health of the workers was generally good.

The problems of dust, noise and vibration continues to be practically the same in rice mills and factories. Improved methods of dust control and dust suppression are receiving attention. The lighting in factories in day time was generally good. Wherever necessary statutory action had been taken to improve lighting, ventilation and thermal conditions by providing windows, skylights and exhaust ventilation, painting, lime washing etc.

Residential and Industrial Areas—Under Section 89 of the Public Health Act, Local Authorities have to demarcate and notify residential and industrial areas in consultation with the Directors of Town Planning and of Public Health. Owing to the failure of demarcating and notifying residential and industrial areas by many local authorities under Section 89 of the Public Health Act, installations sprang up indiscriminately to the detriment of the resident population. The local authorities had been asked to notify residential areas.

Assam—Tea, Coal mining and petroleum are the principal industries in the State of Assam. They had their own medical staff and dispensaries to look into the health of workers during the year.

Madras—Health Officers in the State are Additional Inspectors of Factories. They inspected the factories within their jurisdiction twice during the year 1957. Their inspection reports were forwarded to Inspectors of Factories for taking remedial measures. Health of the workers was generally good. Cleanliness of factory premises and their surroundings was well maintained.

Madhya Pradesh—

Employees State Insurance Scheme—Industrial Centres under the Employees State Insurance Scheme were:—

Name of Centre	No. of factories	No. of industrial workers insured under the scheme
1. Indore	47	38,872
2. Gwalior	28	21,287
3. Ujjain	23	13,000
4. Ratlam	10	4,000
5. Burhanpur	7	4,888
6. Jabalpur*	41	5,000
	156	87,047

*Opened on 28-9-57.

Under the scheme, medical care was provided to insured persons through (a) Service System and (b) Panel System.

The Service System was functioning at Jabalpur, Indore, Gwalior and Burhanpur. In addition to Insurance Dispensaries six at Indore, five at Gwalior, two each at Burhanpur and Jabalpur, Malawa Mill Dispensary, Indore, and Perfect Potterys Dispensary, Jabalpur, were utilised under the scheme.

Under the Panel System—There are 14 panel doctors at Ujjain and 6 at Ratlam. Each private practitioner had been allotted not more than 1,000 insured persons. Approved chemists have also been appointed at the four centres, Indore, Gwalior, Ujjain, and Ratlam for supplying special medicines.

Twenty beds were added to the Maternity and Child Welfare Centre, Nandanagar Labour Colony, Indore. Medical Boards and Employees Insurance Courts have been established.

The details of medical benefit provided during the year 1957 are:—

No. of patients attended	1,46,122
No. of injury reports received	2,353
No. of surgical operations performed	2,533
No. of injections given	2,44,548
No. of Home visits	5,665
No. of Cases referred to hospitals—	
(*a*) for laboratory examination	4,547
(*b*) for X-ray	3,526
(*c*) for specialist's advice	9,031
No. of cases admitted to hospitals	2,033

Punjab—District and Municipal Medical Officers of Health had been appointed as Additional Factory Inspectors under the Factories Act, 1948. 362 factories were inspected by health officers

Health of workers was generally good; no epidemic broke out among the workers. A reasonable standard of cleanliness was maintained at almost all the Factories. The Industrialists had been fairly cooperative in improving basic sanitary facilities. Legal action taken against negligent owners had been fruitful.

Rajasthan—The Factories Act and Rules were enforced by the Labour Commissioner, Rajasthan. The facilities for emergency medical aid existed in all the registered factories which had more than 500 workers ordinarily employed in them. Though the medical inspection room had not been provided in the Rajasthan Factories Rules, 1951, facilities exist in most of the Factories.

Uttar Pradesh—About 50 lakhs of workers are estimated to have been employed in small scale industries and about 2 lakhs workers in about 1,500 registered factories. Kanpur, the most important industrial centre had about 68,000 workers employed in about 250 registered factories. The Industrial Health Organisation under the Director of Medical and Health Services, U.P., Lucknow, continued making investigations into health of the workers.

During the year under report, 104 visits were made to 60 factories for routine inspections and finding out their compliance with provisions of Factories Act regarding health, safety and welfare of workers. The following types of factories were visited during the year for this purpose:—

(1) Glass, (2) Textile, (3) Tanneries, (4) Printing Presses, (5) Electroplating, (6) Paints, (7) Rice Dal and Oil Mills, (8) Chemicals, (9) Paper Mills, (10) Food etc., and (11) Ordnance.

Of all the factories inspected about 45 per cent were detected with defective conditions in accordance with the provisions of Factories Act. About 15 per cent of the factories inspected complied with our verbal suggestions and about 28 per cent were asked to comply through the Chief Inspector of Factories, U.P.

The following investigations were carried out during the year:—

1. Investigations into the health hazards of the workers in Glass Bangle factories at bangle joining process. Recommendations were made to the Chief Inspector of Factories for providing well-ventilated, lighted and hygienic places for such work.

2. Investigations into the Chroma Injuries in Dichromate Industries in Kanpur.

About 85 per cent workers showed effects of chrome hazard on their bodies in the form of ulcer on limbs and nasal septum and nasal perforation, about 7 per cent showed scars with signs of old healed ulcer. Recommendations were made to the Chief Inspector of Factories, U.P. for providing adequate measures of preventing inhalation of Chrome dust by the workers, and their exposed surfaces coming with its contact.

3. Investigation in collaboration with the Deputy Chief Advisor of Factories, Government of India, New Delhi, into the incidence of Lung Carcinoma in Chrome workers.

4. Investigations into eye health hazards in Ordnance Factory.

44 persons showed eye-sight below normal. As no record of eye sight was maintained at the time of initial entry of workers in the factory, it could not be ascertained whether deterioration of eye sight of these people was due to their work and occupation. It was, therefore, suggested that workers at the time of recruitment should be thoroughly checked up including eye sight to give them jobs according to their health status.

5. Investigations on how far recommendations of the previous year regarding amelioration of the heat-load on the workers in power houses were implemented during the year.

6. Laboratory Investigations: 274 thermal reading regarding EFFECTIVE TEMPERATURE were made in Glass, Cotton, Woollen, Jute and Cement Factories.

7. Other enquiries undertaken were in respect of:

(a) Industrial health survey in Government cement factory, Churk;

(b) Investigations into silicosis hazards;

(c) Investigations into lead poisoning in the State;

(d) Range of suitable effective temperature for workers in factories attended with high temperature;

(e) Research on Byssinosis.

In addition to this, lectures on Industrial Health and diseases were delivered to the batch of Post-Graduate Officers of the Public Health Department as well as to the batch of Sanitary Inspectors for training. Suitable demonstrations were also made by taking them round the factories in Kanpur. Lectures were also arranged for 'Third Industrial Safety Training Course' held under the Safety First Association, India, Kanpur Branch.

Employees State Insurance Scheme—Extension to the towns of Aligarh, Hathras, Bareilly and Shikohabad was sanctioned in the budget of the year 1957-58. During the year 1957, this scheme was in operation in

6 towns besides Kanpur and covered 1,40,000 workers. The following is a brief summary of the work done under it:—

1. No. of patients treated—	
(a) New	1,75,861
(b) Re-visits	9,51,226
2. Daily average	3,164
3. No. of Tuberculosis cases treated—	
(a) New	94
(b) Old	633
4. No. of domiciliary visits paid by M.Os.	4,817
5. No. of certificates issued—	
(a) First	1,10,589
(b) Intermediate	70,194
(c) Final	99,056
6. No. of accident reports issued	3,982
7. No. of cases referred to hospitals for X-ray and other investigations	12,294
8. No. of cases admitted in hospitals	1,547

Himachal Pradesh—There were no major industries in the territory except two Breweries, one Rosin and Turpentine and one Nahan Foundry where health hazards of these workers was not a problem. The health of these workers was not exposed to the hazards except small accidents for which the provisions were made by the factory managements. Cottage industries did not entail much harm to the people.

The National Water Supply and Sanitation Programme:

The National Water Supply and Sanitation Programme was started during the First Five Year Plan period in August/September 1954, with a view to assisting the State Governments to provide better Water Supply and drainage in urban and rural areas. Assistance was given by the Central Government in the form of loans in the case of approved urban schemes to the extent of 100 per cent of the estimated cost and as grant-in-aid in the case of approved rural schemes to the extent of 50 per cent of the estimated cost. The loans given to the State Government for the urban schemes were re-payable in instalments over a period of 30 years. The programme was being continued in the Second Five Year Plan period.

The nucleus of a Public Health Engineering Section set up during the year 1955 in the Directorate General of Health Services was expanded into a full-fledged Central Public Health Engineering Organisation with nine Public Health Engineers and a Sanitary Chemist. This wing of the Directorate renders technical assistance to the Union Ministry of Health in the entire field of Environmental Sanitation apart from administering the National Water Supply and Sanitation Programme. The Central Public Health Engineering Organisation carries out technical scrutiny of projects, makes field inspections and renders professional assistance and guidance to the State Public Health Engineering Organisations in their programmes. In addition, training programmes are organised and conducted and periodical conferences of Public Health Engineers are held to discuss problems relating to Environmental Sanitation.

Centrally sponsored schemes for the year 1957—National Water Supply and Sanitation Programme (Urban):

During 1956-57, the first year of the Second Plan, the total loan sanctioned to the various State Governments for implementation of the urban schemes was Rs. 369.14 lakhs. A provision of Rs. 550 lakhs was made in the budget for the year 1957-58. The number of schemes sanctioned, the estimated costs and the funds paid so far are shown in Table No. 31.

202 urban water supply schemes and 56 drainage schemes were in various stages of progress in 15 States. During the year 1957 a sum of Rs. 746.64 lakhs was released as loan for carrying on work on these schemes.

8 water supply and 6 drainage schemes of *the Corporations* were also in various stages of progress in eight States. During the year 1957 a sum of Rs. 5.0 lakhs and Rs. 20.5 lakhs were sanctioned for the Corporation schemes in Kerala and West Bengal States respectively.

Centrally Aided Schemes—National Water Supply and Sanitation Programme (Rural):

During the year 1956-57 grant-in-aid amounting to Rs. 84.945 lakhs were paid to the various State Governments. A provision of Rs. 150 lakhs had been made in the budget for the year 1957-58 for rural schemes. The number of schemes sanctioned, the estimated costs, and the funds paid are shown in Table No. 32.

133 rural water supply and sanitation schemes were in progress in 16 States during the year 1957. For carrying on the work on these schemes a sum of Rs. 112.115 lakhs was sanctioned as grant-in-aid.

Materials and equipment including Transport Vehicles, drilling rigs, pumps, cast iron pipes and G.I. pipes, engineering kits, and engineering books were supplied through T.C.M. for a total value of $4,015,921.31 approximately up to December 1957, for use in the various States for their urban and rural water supply and sanitation schemes.

Training in Public Health Engineering—As the implementation of the National Water Supply and Sanitation Programme required a large number of professionally qualified Public Health Engineering personnel, the Public Health Engineering Training Programme was started from the year 1956-57 onwards as a part of the National Water Supply and Sanitation Programme. A provision of Rs. 30.00 lakhs had been made for the training Programme during the Second Plan. The Budget provision made for the year 1956-57 was Rs. 4.00 lakhs.

The following categories of personnel were trained during the year 1956-57.

Name of Instt./Centre	Type of Course	No. trained
1. All India Institute of Hygiene and Public Health, Calcutta.	M.E (PH) course for 10 months ..	17
2. Do.	Short term course for Engineering Subordinates for three months.	30
3. Engineering College, Guindy, Madras	Short term course for Engineering for 3 months.	7
Do.	Short term course for Engineering Subordinates for 3 months.	8
4. Chandrawala Water Works, Delhi	Short term course for Water Works Plant Operater for 4 weeks	24

The Government of India, Ministry of Health paid stipends at the rate of Rs. 150 p.m. for Engineers, Rs. 100 p.m. for Engineering Subordinates and Water Works Plant Operators sponsored for the various courses by the respective State Governments. In addition to this, the Central Government met the tuition and examination fees, cost of educational tours etc. on behalf of these trainees.

Progressive Health Activities:

The salient features on Public Health Administration and Health Activities in various States are detailed State-wise: —

Andhra Pradesh—Out of 816 Maternity and Child Health Centres functioning in the State, 210 centres had provision for beds and the total number was 508. By way of expansion of M.C.H. services in the rural areas, preference was given for the establishment of Primary Health Centres in the Community Development and National Extension Service Block areas. A total number of 2,125 indigenous dais were trained up to 1956-57. 48 candidates were admitted for the integrated Health Visitors course into the school for health visitors at Hyderabad and Visakhapatnam. 24 students passed during the year from Niloufer Health School, Hyderabad.

Assam—The Government of Assam appointed one Public Health Engineer with necessary staff under him on temporary basis under the Second Five Year Plan. Medical and Public Health departments were amalgamated at the top under one Director.

Bihar—The Public Health and Medical Departments, which were amalgamated under the Directorate of Health Services, Bihar, during the year 1953 continued to function efficiently and gradual progress in the Public Health conditions of the State was maintained during the year. The most important scheme, that was completed during the year was the interim rural and urban public health reorganisation. Under this, all the 17 districts of the State have been provided with one fully qualified and whole-time District Medical Officer of Health and other Health staff. All the municipalities with a population of 25,000 and over have now been provided with a Medical Officer of Health. Another important Public Health activity that continued its progress during the year was National Malaria Control Programme. There is also a proposal before the Government to open a new Medical College at Ranchi. Pending construction of the buildings, students for the Ranchi Medical College are being admitted into the Medical Colleges at Patna and Darbhanga.

Bombay—During the year, three meetings of the Sub-committees of the Board of Health were held and proposals for water supply for 13 towns and villages were considered. In five cases grants-in-aid were sanctioned. The Government itself was to execute the work in 5 cases and Local bodies in 8 cases.

Kerala—After re-organisation of the States, the Medical and Public Health Departments in the State were integrated into a single department of Health Services. There were two Deputy Directors of Health Services one for Medical and one for Public Health in the Directorate to assist the Director of Health Services. At the district Headquarters also, there were a District Medical Officer on the Medical side and a Joint District Medical Officer on the Public Health side.

Madhya Pradesh—To improve the health conditions of the people in rural areas, Primary Health Centres were established in 17 districts of the State. One Laboratory was also established at Chhaterpur during the year under review.

Rajasthan—W.H.O. day was celebrated on 7th April 1957. Health fortnight was celebrated in Block areas in October 1957. About 8,500 children were selected on a long term feeding programme, which was successfully carried out and feeding was supplemented by milk and multi-vitamin tablets.

Besides, as detected in general survey, the sick and under-nourished group of children were given adequate treatment and supplementary feed with milk, multi-vitamin tablets etc.

Uttar Pradesh—A post of Assistant Director of Family Planning was created during the year 1957-58. Training programmes at the State Hygiene Institute were considerably increased during the year. Seventeen electrical and mechanical engineers of water works in the State were given two weeks training in public health problems of water supply with special reference to the determination of the quality and treatment of water. 152 students were trained as Sanitary Inspectors during the year under review.

The State Government constituted a Committee to advise in the matter of reorganisation of the existing school health services.

Himachal Pradesh—The Territorial Council started functioning with effect from 15th August 1957 after the States' re-organisation. 13 Primary Health Centres, during the year under report, some of which were short of trained staff were further strengthened by providing more trained personnel, e.g., Lady Health Visitors, Auxiliary Nurses and Midwives.

The Public Health Engineering Organisation is under the control of Public Works Department. The water supply and drainage schemes planned for execution were carried out by the Executive Engineer and Sub-divisional Officer of their respective areas.

Nutrition:

Nutrition work was carried out in Andhra Pradesh, Bihar, Bombay, Madras, Mysore, Punjab, U.P., and West Bengal in the year 1957. Assam, Himachal Pradesh, Madhya Pradesh, and Rajasthan are the States which failed to record any progress in nutrition activities during the year under review. Lack of suitable trained personnel in the field of P.H. nutrition had been responsible for this absence of field nutrition activities. Nutrition work like other public activities does not always produce dramatic results. However, it is encouraging to record that all the States have continued to support nutrition work in their respective public health departments.

As in previous years, the work performed was confined mainly to a study of dietary intake of groups of population and a survey of the nutritional status of the people to assess the incidence of malnutrition, during the year under review.

Diet Survey—Diet surveys were carried out on a large number of rural and urban population groups. The relevant information State-wise is given in Table No. 33. In general the results of the diet surveys revealed that consumption of protective foods like milk, fruit and leafy vegetables was inadequate. The intake of protein, calcium and Vitamin A and other nutrients was low. In the groups with higher family income there was a greater consumption of protective foods.

Nutrition Survey—Nutrition Surveys were carried out in several States. A high incidence of Xerosis of conjunctiva and other ocular manifestations of Vitamin A deficiency was noted. Other common deficiency diseases were those pertaining to Vitamin B complex and Vitamin C. Mild anaemias were observed in several instances. The classifications of the symptoms and signs of nutritional deficiencies observed are given in Table No. 34.

Nutritional Investigations—

Andhra Pradesh—Cases of fluorosis in two villages in Kurnool district were reported. The source of water in one village (Devankonda) was three stepwells and other (Varimukula) surrounded by Rock soil. Fluoride content of the water was reported to be high. Diet and nutrition surveys indicated that the population consisting of agriculturists and manual labourers consumed very little quantities of protective food like pulses, milk and vegetables and deficiency signs due to lack of Vitamins A and C were prominent.

Bihar—A goitre survey amongst 65,000 inhabitants in three districts was carried out. Potassium Iodide tablets, 10 mg per week, were distributed to goitre patients and other vulnerable groups of the population. Estimation of iodine in food materials and soil was under progress. The dietary habits, nutritional status and economic condition of the Adivasies living in 5 districts of Chotanagpur Division of Bihar State were studied as part of Adivasies-Upliftment Programme. From the reorganisation of random survey nearly 0.8 to 2.4 per cent of the population was reported to be suffering from Lathyrism.

Bombay—The effect of giving supplement of Chiki (Toffee 1 oz) and milk (8 oz.) on the nutritional status of the children in primary schools under the Bombay Municipal Corporation was studied. In previous years the cases of nutritional oedema due to primary dietary inadequacy were frequent. 35 patients suffering from nutritional oedemas were studied in the year 1957, in the Nutritional Clinic and it was found that these were not due to Primary dietary inadequacy but conditioned by infection.

Madras—Analysis of common leafy and non-leafy vegetables for proteins and minerals and studies on the supplementary value of these foods to poor rice diets fed to animals had been carried out. The toxic principle of some varieties of varagu (Paspalum Scorbiculatum) was found to be present in the ether extracts of the material, as judged by injections into crows. Freshly cooked and fermented cold rice were fed under comparable conditions and the latter was found to promote better growth.

Mysore—A comprehensive health study was carried out with the co-operation of Rockefeller Foundation (South East Asia Office) in Bangalore. In all, 3,13,023 persons from 28 villages spread in 67 Taluqas of the State were studied.

Punjab—661 children between the ages of 6—12 years received milk as a supplement of their diet for three months. Another group of 455 children received no such supplement. It was found at the end of the period that the gain in weight and height was significantly greater in those receiving the supplement. Fall in the incidence of absenteeism and sickness was also recorded in the supplemented group.

Uttar Pradesh—Infestations with ankylostomaduodenale was common among the people. The second common intestinal parasite was entamoeba histolytica. Hookworm appears to be the major cause of anaemia.

West Bengal—In Mulika and Nulapur villages of Nadia district about 59 to 80 per cent of the males and 70 to 82 per cent females were found to be affected by goitre. Drinking water was hard, containing excess calcium. Nutritional disorders like night blindness, angular stomatitis, glossities were also present to a high degree among the villagers.

Ameliorative Measures—The distribution of milk powder donated by UNICEF through maternity and child welfare centres and hospitals continued to be one of the chief ameliorative measures undertaken in several States. Vulnerable groups of population like expectant and nursing mothers and school children benefited largely under the scheme.

In addition to milk powder, full cream milk and tablets containing calcium, iron, and Vitamins were distributed in Bihar. The Indian Red Cross Society and UNICEF jointly undertook the distribution of milk powder in Bihar in flood affected and scarcity areas.

In Bombay State, about 44,000 school children received a supplement of milk daily. Distribution of multi-vitamin tablets (Vitamin A, B, C & D) to the vulnerable groups and supply of toned milk for domestic consumption at a concessional rate and supply of pasteurised milk and nutritious snacks and fruits etc. to infants and under-nourished children in the municipalities in Bombay, Poona, and Ahmedabad are some of the ameliorative measures undertaken by the Bombay State.

In Madras, mal-nourished children were given multivitamin tablets, fish liver oil, calcium lactate, iron tablets and yeast. About 13,000 children of Madras Corporation benefited by free mid-day meal scheme. 200 children received multipurpose food, in addition to the meal.

In Punjab distribution of multi-vitamin tablets to the vulnerable groups and supply of iodised salt in the goitre belt of Kangra district were the chief activities in addition to distribution of milk powder during the year 1957.

Nutrition Education—Publication of small pamphlets in local languages and participation in exhibitions held during fair and festivals, film shows and lantern shows were adopted. Lectures to school children with lantern slides also formed part of nutrition education programme in several States. With a view to arouse nutrition consciousness among the public, certain important days like Tamil new years day, W.H.O. day etc. were celebrated in Madras State with emphasis on nutritional themes like "drink more milk", "eat more vegetables", etc. Visual aids like models, charts, posters, etc. were used freely in nutrition education work in various States during the year under review.

CHAPTER IV

MEDICAL RELIEF

Contributory Health Service Scheme:

The Contributory Health Service Scheme for Central Government employees in Delhi/New Delhi was introduced on an experimental basis during the year 1954. The objectives of the scheme were two-fold: (i) to provide medical facilities for Government servants and (ii) to serve as a pilot project for a national health insurance scheme. During the period 1954—56 the scheme provoked a lot of interest and good response from the beneficiaries.

In fact, it can be said that the year was a landmark in the life of the C.H.S. Scheme. In response to the demands of the beneficiaries and in recognition of its usefulness and general popularity the scheme was put during the year on a permanent footing and it was envisaged to expand the scheme by way of opening new dispensaries, strengthening the staff for giving prompt and careful treatment to the patients. It was hoped that the removal of uncertainty about the security of the staff in the C.H.S. scheme would result in better attention and conscientious working of the staff.

At the end of 1956 there were 19 dispensaries and three mobile dispensaries functioning under the scheme. During the year 1957 two new dispensaries in Moti Bagh and Dev Nagar were added. During 1954 the scheme catered to a population of 2.23 lakhs through its 16 static dispensaries and three mobile dispensaries, and the average number of patients attending the dispensaries was 4,504 per day. During the year under report the scheme served over four lakhs of people with a daily attendance at the dispensaries ranging from 10,000 to 13,000 cases. In the proposed re-organisation of the scheme a provision was made for a total number of 30 dispensaries along with the staff required for maintaining them to meet the demands and requirements of the beneficiaries.

The sanctioned strength of the staff during the year was 20 specialists, 96 medical officers (70 males and 26 females) and seven medical officers (Family Planning). The total expenditure incurred during the year 1956-57 was of the order of Rs. 35.56 lakhs of which the expenditure for medicines, equipment and other charges was nearly of the order of Rs. 22 lakhs and the remaining accounted for the expenditure on establishment of officers and allowances and honoraria. Against this, a sum of Rs. 20.83 lakhs was realised as contributions from the Government employees, semi-Government bodies, Ministry of Defence and Railways and the D. G. P. & T. During 1957-58 the budget grant for the scheme was Rs. 35 lakhs out of which the sum of Rs. 20 lakhs was estimated to be accruing from the contributions of the government employees.

Facilities were provided for hospitalisation and specialist services for the beneficiaries of the scheme. Arrangements were made with other hospitals and sanatoria outside Delhi for the treatment of patients suffering from T.B., Cancer and Poliomyelitis. The number of patients referred to such hospitals upto November 1957 was 210 of which T.B. accounted for 205 and Cancer 5. In regard to the provision of maternity facilities, besides St. Stephen's Hospital, Lady Hardinge Medical College and Hospital, Girdhari Lal Hospital and Victoria Zenana Hospital in Delhi/New Delhi over 30 Maternity and Child Welfare Centres were recognised for providing confinement facilities to families of government servants free of charge.

Mention may also be made of the provision of Family Planning services at the C.H.S. dispensaries for the beneficiaries covered under the scheme. During 1957, 9 family planning centres functioned in close association with the C.H.S. dispensaries. Besides giving necessary family planning advice, social activities were also organised at these centres to cater to the family welfare activities, which was one of the objectives of the programme. It was also thought that these dispensaries of the C.H.S. should not merely be centres for providing medical treatment and advice but also they should be centres to lend preventive bias and to promote the health consciousness among the beneficiaries. Towards this objective the medical officers were enjoined upon as one of their important functions to organise local communities to get together at the dispensaries on the occasion of the Children's Day on 14th November 1957 and the interest and the curiosity aroused by such local meetings were supposed to create the necessary health consciousness among the population served.

An Advisory Committee consisting of the representatives of the various service associations was associated with working of the scheme, and three meetings were held during the year and recommendations and suggestions made by the Committee were fully considered to shape the future line of action.

Although the scheme was confined to the Central Government employees in Delhi and New Delhi, thought was given to extend the scope of the scheme to other Central Government employees stationed outside Delhi. The proposed scheme might be extended to cover the other centres later. The scheme proved very successful from the encouraging response and interest evinced by different non-official agencies, professional bodies and organisations to organise medical care scheme on the pattern indicated by the C.H.S. and the medical associations in the different parts of the country were also stimulated into formulating medical aid schemes on the basis of regular periodical contributions by those desirous of securing medical coverage. Thus it can be held that the second objective of the scheme was also partially fulfilled.

Hospitals and Dispensaries:

Generally all hospitals and dispensaries in the States during the period under review continued to work satisfactorily.

Andhra Pradesh—The total number of Institution of all classes function ing in the State during the period under report was 510 and the number of patients treated for various diseases during the period was 1,44,81,112. Total number of beds available in all classes of medical institutions for both urban and rural areas during the period was 11,340.

Under the Rural Medical Scheme the Government have sanctioned the establishment by Local Bodies of the District Board concerned, 102 rural dispensaries in different districts.

Assam—During the year under report, the Hospitals and Dispensaries were functioning as usual providing medical facilities both in urban and rural areas of the State. In addition to Hospitals and dispensaries run by the State Government, about 100 subsidised dispensaries were also continued to function providing medical facilities in rural areas of the State. The supply position of equipments etc. to the institutions was satisfactory. The total number of Hospitals and Dispensaries as per information received was 594.

Bihar—Under the Second Five Year Plan, there was a proposal of Government to provincialise 250 dispensaries in the State of Bihar of which 52 dispensaries were provincialised in 1956-57. 32 Rural dispensaries were also provincialised during the year under report.

Bombay—Information received in respect of this State (Hospitals and Dispensaries) is not up-to-date. The total number of hospitals and dispensaries is 2,688 and the number of patients treated (both indoor and outdoor) was 1,08,05,371. The number of beds for all categories was 15,802.

Jammu and Kashmir—The total number of Hospitals and dispensaries was 120. During 1957, 28,506 indoor patients and 35,05,322 outdoor patients were treated. The number of beds was 1,760.

Kerala—The number of medical institutions in the State at the end of December 1957 was 313. Of these 68 were hospitals and 245 dispensaries. One T.B. Hospital was newly started during the year, 5 Dispensaries newly started functioning during the year and 35 Local Fund medical institutions were taken over by Government.

Madhya Pradesh—During the year under report 38 new medical institutions were opened. All the hospitals and dispensaries had sufficient equipment and medicines according to their needs. There were 183 hospitals and dispensaries run by local bodies, who were in receipt of grant-in-aid from the Government. During the year 1957, proposals were submitted to the Government, for provincialisation of all the 183 hospitals and dispensaries in order to bring them on par with the hospitals and dispensaries of Madhya Pradesh, Vindhya Pradesh and Bhopal regions.

Mysore—Four dispesaries were opened during the year in old Mysore State. In all 964 hospitals and dispensaries were functioning in 1957 in Mysore State. It was decided to establish a cancer institute at Bangalore and the implementation of Employees State Insurance Scheme was also decided during this year.

Orissa—During the year, 2 Allopathic and 4 Ayurvedic dispensaries were established thus bringing the total number of hospitals and dispensaries to 448 in Allopathic and 107 in Ayurvedic. Besides 29 Primary Health Centres were functioning. The grants under Medical stores and instruments of all Government hospitals and dispensaries in the State were increased by 20 to 30 per cent.

Punjab—The hospital and dispensaries in the urban areas continued to function and in several cases improvement was made by providing additional equipment and staff etc. during the year. The civil hospital at Hissar was re-provincialised in order to raise its standard. In order to provide better medical facilities in rural areas, 15 Primary Health Centres and 5 Rural health centres in the State was opened in different districts of the State.

Rajasthan—The work of all the hospitals and dispensaries in the State of Rajasthan was on routine line. All the district hospitals and dispensaries were fairly well equipped and the stock position of the drugs etc., was adequate to meet the need of the sick.

In the year 1957 total number of hospitals, dispensaries and clinics was 623 as compared to 578 during 1956. The hospitals and dispensaries provided medical aid to 89,00,000 patients approximately during 1957 as compared to 75,58,691 in previous year.

Uttar Pradesh—Thirty general dispensaries and 6 dispensaries exclusively for women were established in rural areas during the year, bringing the total number of hospitals and dispensaries in the State (Urban and Rural) to 1,229 upto the end of the year.

West Bengal—Amongst other, 37 Relief camp hospitals and dispensaries with 494 beds functioned during the year 1957 in the State. 538 T.B. beds were kept reserved for displaced T.B. patients. The B. C. Roy Polio Clinic was brought under State management, during the year under review.

Andaman and Nicobar Islands—There were 6 hospitals and 22 dispensaries functioning in different Islands of this State. Maya Binda Dispensary was converted to 10 bedded hospital during the year 1957 and also 2 new dispensaries were opened.

Delhi—There were 30 hospitals and 56 dispensaries in Delhi during 1957. The Alipur Health Centre and Municipal Dispensary, Goenka Road, were new institutions opened during the year.

Detailed statistics of medical relief with number of hospitals and dispensaries, and the number of patients treated and the number of beds available State-wise are presented in Table No. 35.

Blood Transfusion:

Andhra Pradesh—During the year there were seven blood banks at the district headquarters hospitals at Visakhapatnam, Kakinada, Masalipatnam, Guntur, Kurnool, Hyderabad and Secunderabad. The Central blood bank was located at the Osmania General Hospital, Hyderabad. A scheme for the training of medical officers in blood transfusion was sanctioned by the Government and training was imparted at the Central Blood Bank, Hyderabad.

Assam—One blood bank functioned during the year at the Assam Medical College Hospital, Dibrugarh and blood transfusion was given in 581 cases.

Bombay—There were three blood banks attached to the Medical College, Nagpur and the Civil Hospital, Ahmedabad and the J.J. Hospital, Bombay. At the J.J. Hospital, Bombay, RH grouping was done among pregnant women and for the patients where there was indication of Heamolytic diseases.

Kerala—There were three blood banks functioning in the State and during the year, 179,710 cc of blood was collected from 1,355 donors.

Himachal Pradesh—A blood transfusion centre was started at Snowdon Hospital during the year and the donors were 200 and the total quantity of blood collected was 24,000 cc. The number of blood transfusion done was 17 during the year under report.

Mysore—In the State of Mysore there were three blood banks at Victoria Hospital, Lady Curzon Hospital and Government Wenlock Hospital of Bangalore. During 1957, 492,290 cc of blood was collected. Services were provided under the supervision of the pathologist. In addition, these blood banks provided special services in the Civil Hospital, Ujjain and Sultania Zanana Hospital, Bhopal. The cases treated in these hospitals were respectively 80 and 50 in number.

Orissa—There was only one bank in the Medical College Hospital, Cuttack to meet the urgent and emergent requirements. 499 donors donated 125.85 litres of blood and 510 transfusions were given during the year.

Punjab—Apart from the Red Cross blood bank at Ludhiana, the specialised services in blood transfusion were available at the five hospitals at Amritsar, Jullundur, Karnal, Ambala and Patiala. Plasma processing and oral-testing were also carried out in some of the centres. Pursuasive methods were utilised to propagate the usefulness of blood transfusion to enlist voluntary blood donors. Free transfusion was given to destitutes and deserving patients.

Rajasthan—In the State there were four blood banks, two in Jodhpur one each at Jaipur and Ajmer. The services of blood transfusion collected from donors was given in all the first and second grade hospitals. During the year under report the total quantity of blood collected was 771,510 cc and 2,373 blood transfusions were given to the patients.

Uttar Pradesh—The facilities of blood transfusion were available in the State at the three blood banks located at Agra, Lucknow and Bhowali. The total number of donors enrolled during the year was 2,869 and the total blood collected was 917,300 cc. and 2,953 blood transfusions were done in the State and the quantity of plasma serum prepared was 2,327 ampoules of 1 cc each.

West Bengal—There were seven blood banks in the State and 417,780cc of blood was collected from 26,445 donors. The total number of blood transfusions made was 26,051 in all.

A training scheme was introduced during the year to train private practitioners in the methods of blood grouping, cross-matching and blood transfusion in the blood bank at the Calcutta Medical College Hospital. Facilities existed for preparing "plasma" and "packed cells" and 374 bottles of the above requirements were supplied in all during 1957.

X-Ray, Radium Therapy, Isotopes treatment:

Assam—All the District and Sub-divisional hospitals were equipped with the X-ray plants. However, radium therapy was done only in the Assam Medical College Hospital, Dibrugarh.

Kerala—There were only 18 institutions in the State having the X-ray facilities. The number of persons X-rayed during the year was 21,234 out of which 12,596 were treated.

Madhya Pradesh—There were 6 institutions having X-ray facilities in the State during the year. At the Hamidia Hospital, Bhopal, radium therapy was continued. Facilities of mass radiography by miniature camera and the deep X-ray and radium were also available at M.Y. Group of Hospitals, Indore. At the Victoria Hospital, Jabbalpur, superficial and deep X-ray Therapy facilities were also available.

Mysore—Twenty six medical institutions in the State, had the X-ray facilities for the treatment of out-patients and in-patients. 47 diagnostic sets and 16 therapeutic sets were available in the above medical institutions and 13 were major and 34 for the minor diagnostic sets and 73 superficial and 9 deep X-ray sets. The total number of cases treated during the year was 27,170 out of the total number of 1,66,223 examined.

Radium treatment facilities were available in institutions at the Victoria Hospital, Bangalore and Lady Curzon Hospital, Bangalore and Krishna Rajinder Hospital, Mysore.

The total quantity of radium available at these hospital was 1012.45 mgm. No facilities for isotopes were available.

Orissa—X-ray facilities were provided in 16 hospitals. A total number of 17.732 cases were examined and 7,190 received treatment during the year through X-ray.

Facilities for radium treatment were available only at the Medical College, Cuttack and 120 patients were treated during the year therein. No radio isotopes were available with any institution.

Punjab—Six hospitals were provided with the X-ray facilities during the year bringing the overall number of hospitals and dispensaries where X-ray facilities were available to 40 in all. There were 66 diagnostic sets (25 major and 41 minor) and 8 therapeutic (5 superficial and 3 deep) sets, 69,612 cases were X-rayed of which 8,888 were given treatment on the basis of X-ray diagnosis.

Medical treatment facilities with radium were available at the three hospitals at Amritsar, Ludhiana and Nangal. 425 cases were given radium treatment during the year and the stock available was mostly utilised for the cases of cancer of cervices. No radio-isotopes were available in the State.

Rajasthan—The X-ray facilities were available in all the bigger Government Hospitals in Rajasthan. The total number of institutions where these facilities existed were 40. 64 diagnostic and 11 therapeutic sets were available. 95,157 cases were X-rayed of which 20,318 were treated.

Radium treatment was available in only one hospital at Bikaner at the Ganga X-ray and Radium Institute. 140 mgs in the form of needles were available and during the year 29 cases were treated. No isotopes were available in the State during the year under review.

Uttar Pradesh—Facilities for X-ray treatment were available in all the districts and the bigger hospitals of the State for suitable diagnosis. 123 diagostic sets and 9 therapeutic sets were available. The arrangements for radium treatment existed at Laxmi Panna Lal Radium Institute and S.N. Medical College, Agra and the Eye Hospital, Sitapur. Facilities for deep X-ray therapy were available both at Agra and the Lucknow Medical College Hospital and the Kamla Nehru Hospital, Allahabad and the Lovett Hospital, Ramnagar. A cancer wing was added to the Kamla Nehru Hospital, Allahabad and it was proposed to establish a Institute of Cancer at Kanpur and the matter was being finalised.

The total quantity of radium at the S.N. College Hospital, Agra was 400 mgm distributed in tubes and needles, and in the Eye Hospital, Sitapur, 50 mm in the form of needles and 10 mm in the form of Beta-applicator.

West Bengal—X-ray facilities were provided in the two institutions during the year 1957, bringing the total number of such institutions to 29, third largest. The number of sets both diagnostic and therapeutic was in the country, being 79 and 18 respectively. Radium facilities were available at two institutions and one institution was provided with isotopes during the year.

Himachal Pradesh—In Mahasu District, there were three X-ray diagnostic plants, one major and two minor, along with the therapeutic and deep X-ray plant. In Chamba district there was one X-ray diagnostic plant catering to the needs of indoor hospital patients as well as serving the needs for the T.B. Control programme. In Mandi district there was also one X-ray diagnostic plant. Mention may also be made of one small X-ray unit (Phillip D) attached with the District Hospital, Bilaspur, and MA-10 KVP and a diagnostic plant at the District Hospital, Nahan. The quantity of radium at Snowdon Hospital, Simla, was 227 mgm nearly and 47 patients were treated during the year with radium.

Tripura—There was an X-ray department at the V.M. Hospital. Agartala and no facilities for radium therapy or isotopes was available in the State.

The detailed statistics of the number of institutions having X-ray facilities, cases treated, the amount of radium etc. available are presented in Table Nos. 36 and 37 respectively.

Mental Hospitals and Psychiatric Problems of India:

In the field of mental health and Psychiatry, the facilities for institutional treatment continued to be inadequate. Small number of existing institutions were unable to render adequate relief to the sufferers or take care of the mentally defective children. The Hospitals for Mental Diseases, Ranchi was taken over by the Government of India with effect from 1st June 1954 and continued to serve the needs of the State Governments. The bed strength of the hospital was 420; and as in previous year the beds were distributed as follows:—

West Bengal (255), Bihar (60), U.P. (35), Madhya Pradesh (10), Delhi (10), Assam (6), Orissa (6), PEPSU (1), Tripura (4), other areas (3) and Independent beds (30). The institution was well-equipped. All kinds of Neurological, Psychiatric and Psychosomatic ailments were diagnosed and treated and it was functioning as a model centre for the treatment of mental disorders.

Treatment on modern lines in mental hospitals, such as convulsive therapy (chemical and electrical), Insulin Coma treatment, Hydrotherapy, Psychotherapy, therapy with drugs or tranquillisers etc. were given in certain institutions.

Occupational and recreational therapies at mental hospital for mental patients, modernised under the guidance of specialised staff continued to receive increasing attention.

With an object to make provision for and to promote post-graduate and special studies and research in mental health, to give advice to the Government of India and to the State Governments on matters relating to the organisation of mental health services, and also to act in coordination with International and other agencies in the matter of Post-graduate, and special studies and research in mental health, the Government of India took over the All India Institute of Mental Health, Bangalore in August 1954. The institution worked in association with the Mental Hospital, Bangalore and its affairs were managed by a Governing Body consisting of representatives of the Central Government and the Government of Mysore.

During the year 1957, 11 candidates for Diploma in Psychological Medicine, 8 for Diploma in Medical Psychology and 18 for Psychiatric Nursing were admitted.

A provision of Rs. 7,32,000 was available in the budget for 1957-58.

Number of mental hospitals State-wise with number of beds are shown in Table No. 38.

Andhra Pradesh—There were two mental hospitals during 1957, one at Hyderabad and the other at Waltair with bed strength of 600 and 210 respectively. The total number of patients treated during the year were 1,620. The construction of 150 bedded female wing of the mental hospital at Hyderabad at a cost of Rs. 32,700 was under progress during the year.

Assam—One mental hospital at Tezpur with 740 beds continued to function in the State. During the year 1957, 916 mental cases were treated in this hospital.

Bihar—There are two mental hospitals in the province of which the Mental Hospital, Ranchi with 420 beds continued to serve the needs of various other State Governments. The Indian Mental Hospital, Kanke, Ranchi has an average 1,380 bed strength.

Bombay—The psychiatric department of J.J. Hospital, Bombay had 12 beds for psychosis and psychoneurosis cases. 1,197 New patients were admitted and treated during the year 1957. There were altogether 8 mental hospitals having 3,069 beds in the State.

Delhi—In the Balak Ram Hospital, Timarpur, Delhi, 24,298 mental patients were treated during 1957.

Madhya Pradesh—The facilities available in Madhya Pradesh for Psychiatric cases were like many other States inadequate. An average in general population, the lunatics were 2: 1000 in the province. During the year under review, there were facilities for treatment of 200 patients.

Mysore—There were two major mental institutions, one in Bangalore and another in Dharwar in the State of Mysore, during 1957 with 749 beds. In these institutions 2,186 in-patients and 1,160 out-patients were treated during the year.

Punjab—In Punjab, Psychiatric services were only available in the Punjab Mental Hospital, Amritsar, having 500 beds. In the absence of regular survey of mental illness in Punjab, the incidence could not be assessed correctly from the rapidly increasing attendance of this institution. Psychiatric illness constituted a sizable proportion of sickness in the Province. 4,252 mental patients attended at the hospital during 1957.

Rajasthan—The facilities for the treatment of mential cases in Rajasthan existed at Jaipur, Jodhpur and Udaipur mental hospitals during 1957, with 204 indoor accommodation. 60 Beds were proposed to be increased during the year in Mental Hospital, Jaipur to make 180 beds as against 120 in 1956.

West Bengal—Four institutions with 255 beds were catering to the needs of mental patients in addition to the 225 reserved beds for West Bengal as a contributing State in the hospital for Mental Diseases, Ranchi (Bihar).

CHAPTER V

FAMILY PLANNING

The Planning Commission reviewed the progress of the Family Planning Programme during the First Five Year Plan period and observed that the programme had progressed enough to call for its further development on systematic lines for continuous study of population problems and for a suitable Central Board (more or less autonomous in working) for family planning and population problems. The programme suggested by the Planning Commission included extension of family planning advice and service; establishment and maintenance of a sufficient number of centres for the training of personnel; development of a broad-based programme of education in family living, which would include within its scope sex education, marriage counselling and child guidance; research into biological and medical aspects of reproduction and of population problems; demographic research, including investigations of motivation in regard to family limitation as well as studies of methods of communication; inspection and supervision of the work done by different agencies, governmental and non-governmental, to which grants would be made by the Central Board; evaluation and reporting of progress: and establishment of a well-equipped central organisation.

Family Planning Board and Family Planning Officers:

The Central Family Planning Board was formed on the 1st September 1956.

It was felt that for expeditious implementation of the programme a wholetime officer should be appointed in the Directorate General of Health Services. Dr. P. R. Dutt was appointed as Officer on Special Duty (Family Planning) on the 12th March 1956 as a temporary measure. Lieut. Colonel B. L. Raina, a regular Officer of the Army Medical Corps, associated with the family planning movement for about 20 years was appointed (on deputation from Ministry of Defence) on the 26th September 1956 as Officer on Special Duty (designated later as Director, Family Planning). He reviewed the programme and suggested its re-orientation including adequate administrative machinery at the Centre and in States, simplified procedures for giving grants, liberalised and made flexible assistance to voluntary organisations, issue of all contraceptives free and at subsidised rates, extended decentralised training programme including training in all medical teaching institutions, broadbased education programme with people's participation, intensification of research, both demographic and medical, especially to solve immediate problems, acceleration of measures for production of contraceptives in India, requisite emphasis on sterilization and collaboration of all agencies Governmental and non-Governmental.

The first meeting of the Board was held on the 27th October 1956 under the Chairmanship of Rajkumari Amrit Kaur and subsequent meetings were presided over by Shri D. P. Karmarkar. Amongst other recommendations the Board, at its first meeting, suggested the formation of an executive committee (a Standing Committee) and appointment of Family Planning Officers at State Headquarters. The Standing Committee, with Shri V. K. B. Pillai, the Secretary, Ministry of Health as Chairman was formed on the 2nd January 1957. The Government of India also agreed to pay the entire expenditure for a period of three years for the State Family Planning Officers. The Prime Minister inaugurated the second meeting of the Board. On his suggestion the subject of family planning was discussed at the meeting of the National Development Council attended by the Chief Ministers of States. This subject was also discussed at the Conferences of Health Ministers and Administrative Medical Officers of States.

Family Planning Boards were formed in States of Andhra Pradesh, Assam, Bihar, Bombay, Kerala, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal. The Family Planning work in other States is being supervised by the Maternity and Child Health Officers.

Although major recommendations are made by the Standing Committee of the Central Family Planning Board at its regular meetings, four members of the Committee, viz. the Chairman/Officer deputed by him, Director General of Health Services, representative of the Ministry of Finance and Secretary of the Committee are virtually in continuous session.

The administrative procedure has been simplified. The pattern of assistance has been made flexible (provided the expenditure ceiling is not exceeded) and grants to Local Bodies and Voluntary Organisations can be given six months in advance on production of audited statement of accounts, but if audited statement of accounts is not readily available 50 per cent grants can be issued on production of statement of accounts verified by a competent authority.

Budget Provision and Expenditure:

A total provision of Rs. 497 lakhs (including Rs. 400 lakhs at the Centre and Rs. 97 lakhs in the States) was made for Second Five Year Plan period. The tentative provisions made, were: service Rs. 373.25 lakhs, Training Rs. 15.75 lakhs, Education Rs. 50.00 lakhs and Research Rs. 50.00 lakhs.

The budget provisions approved for 1956-57 and 1957-58 were Rs. 30 lakhs and Rs. 25 lakhs respectively.

The budget provision and estimated expenditure are as follows:—

(Rs. in lakhs)

	1956-57		1957-58	
	Budget	Expenditure	Budget	Expenditure
Clinics	12·00	3·05	15·07	16·34
Training and Education	9·00	0·67	5·23	2·22
Research	6·00	3·99	3·56	6·70
Organisation	3·00	0·93	1·14	0·75
	30·00	8·64	25·00	26·01

The programme for Family Planning may be discussed under the following heads:

1. Education
2. Training

3. Service
4. Research

Education:

The education programme has also been extended. The programme included:

- (i) Schemes to collect detailed information of the factors which are responsible for community attitudes, beliefs and behaviour pattern;
- (ii) Identification of natural groups and natural group leaders and use of these as a channel of communications;
- (iii) Preparation and testing of basic materials and methods for:
  - (a) mass communication,
  - (b) community education, and
  - (c) imparting specific technical knowledge and skills;
- (iv) Training a Corps of competent workers.

The education programme was developed at the centre with the collaboration of the Central Health Education Bureau, Directorate General of Health Services and Directorate of Advertising and Visual Publicity, Ministry of Information and Broadcasting.

Wide awareness in favour of family planning was created. 209 Lakhs posters in English and Regional Languages in two designs were printed and made available to all Organisations doing family planning work. Films and slides have been provided. Programmes on family planning are broadcast over the radio. Family Welfare Workers contact families individually and in groups and also promote community welfare activities around family planning clinics.

Training:

It was obvious that a single training centre was not likely to meet the requirements. The following training programme is, therefore, being developed:

- (i) A centre for training potential instructors.
- (ii) A rural training, demonstration and experimental centre.
- (iii) Touring Training Teams.
- (iv) Development of selected clinics into Regional Training Centres.
- (v) Regional Training Centres for Family Welfare workers.
- (vi) *Ad hoc* training courses of short duration wherever trained personnel and clinical material are available.
- (vii) Incorporation of family planning in normal training programme in teaching institutions for doctors and medical auxiliaries.

Stipends are given during the regular training period at the rate of Rs. 150 p.m. to doctors, Rs. 100 to social workers and public health nurses and Rs. 75 to health visitors and field workers. Travelling allowance is paid to trainees from voluntary organisations. Each trainee receiving stipends is required to execute a surety bond to the effect that after completion of training he or she will serve the State/Local Body/Voluntary Organisation for a period of at least 3 years. The applications of trainees are required to be sponsored by State Government/Local Body/ Voluntary Organisation.

A Family Planning Training and Research Centre for potential instructors was established in Bombay in 15th March 1957, (ii) Rural Training Demonstration and Experimental Centre was developed at Ramanagaram and first course of training was started on the 12th August 1957, (iii) A grant for pilot Touring Training Team was given to Family Planning Association of India, Bombay, (iv) Two Regional Training Centres are functioning one each in Madras and West Bengal and (v) Short-term *ad hoc* training courses are being conducted in different places wherever facilities exist.

During the First Five Year Plan 67 persons were trained. Number of persons trained during 1957-58 was 215 (Table No. 39).

Service:

The Second Five Year Plan provides for the opening of 500 clinics in urban and 2,000 in rural areas. Each clinic normally is required to serve a population of 50,000 in urban and 66,000 in rural areas. The grant for rural clinic provides one worker only to strengthen the staff of the unit with which it is required to function. In the absence of information on the work load and difficulties in finding doctors for rural areas, provision for a doctor in rural clinic was not made.

The grants to family planning clinics have been authorised on the following pattern:

	Rural	Urban
	Rs.	Rs.
Non-recurring—		
Equipment, furniture and publicity material etc.	500	2,000
Stocking of contraceptives	500	500
	1,000	2,500
Recurring—		
One lady doctor and one part-time male doctor	—	5,000
Social worker or health visitor or field worker (family planning worker)	3,000	3,000
One (peon) Clinic attendant	—	1,000
Contingencies	500	500
Conveyance allowance	500	—
Distribution of contractceptives	1,500	1,500
	5,500	11,000

All contraceptives in rural and urban clinics have been authorised for free issue to those with income below Rs. 100 p.m., at half rate to those with income between Rs. 100 and Rs. 200 per month and at full rates to those with income above Rs. 200 per month. Foam tablets and sheaths are issued free in rural clinics irrespective of income. Provision for accommodation in rural areas along with Primary Health Centres has also been made

Pattern of Central Assistance to State Governments, Local Bodies and Voluntary Organisations is as under: —

	Second Plan		
	State Govt. and Local Bodies	Voluntary Organisations	
		Rural	Urban
	(%)	(%)	(%)
Non-recurring	100	100	100
Recurring—			
First Year	80	100	100
Second Year	70	100	80
Third Year	50	100	80
Fourth Year	30	100	80
Fifth Year	20	100	80

Grants for contraceptives and for clinics in teaching institutions are given to cover the entire expenditure involved. It will be noted that Central Assistance has been liberalised especially in case of Voluntary organisations.

Family Planning Service is likely to succeed if the clinics are associated with maternity and child health work or with centres which provide medical aid and welfare services. Therefore, it has been advised that the family planning clinics should be opened as integral part of such maternity and child welfare services. The main problem is the extension of family planning programme to the villages where 82 per cent of the people live. National Extension and Community Development Organisations are gradually covering the whole country. In rural areas the clinics are therefore being mainly associated with primary health centres. The role of social workers and medical personnel is unique in the society by virtue of their specialised knowledge and social aims. Active assistance and co-operation of voluntary family planning organisations, social workers, medical and paramedical personnel have, therefore, been sought.

During the period of First Five Year Plan, 1956 and 1957, 231 rural and 227 urban family planning clinics have been opened. The state-wise and year-wise breakdown have been shown in Table No. 40.

The amount sanctioned to State Governments, local bodies and voluntary organisations during the year 1956-57 and 1957-58 along with statewise breakdown have been shown in Table No. 41.

The Central Family Planning Board has recommended for the present that sterilization operation should be voluntary with the consent of both husband and wife depending on the merit of each case and the operation should be performed by trained surgeons in hospitals and institutions where such facilities exist and not in family planning clinics.

The number of operations performed during 1956 and 1957 are shown below:

Year	Number of sterilization		Total
	Male	Female	
1956	2,333	5,490	7,823
1957	3,671	9,459	13,130

Research:

Provision has been made for demographic, and medical and biological research. The latter is being mainly conducted by the Indian Council of Medical Research.

Investigations on contraceptives are being carried out at the contraceptive Testing Unit, Indian Cancer Research Centre, Bombay, the All India Institute of Hygiene and Public Health, Calcutta, the Central Drug Research Institute, Lucknow, the Institute of Post-Graduate Medical Education and Research, Calcutta, the Bacteriological Institute, Calcutta and the Pharmacology Department of the Lucknow University.

Research Schemes sanctioned by the Indian Council of Medical Research during 1957-58 are shown under table No. 42.

A number of oral contraceptives have been investigated. Results of research on meta-xylo-hydroquinone are encouraging.

Demographic Training and Research Centre was established in Bombay on the 15th November 1956 in collaboration with the United Nations and Sir Dorabji Tata Trust with Dr. John Mathai as Chairman of the Governing Body. This centre has been developed as a regional organisation to serve the needs of other Asian countries as well. Two Demographic Research centres have also been opened, one each at the Indian Statistical Institute, Calcutta, (28th December 1957) and the Delhi School of Economics, Delhi University (29th October 1957). The Demographic Centres are still in formative stage. An advisory committee on Demographic Research with Dr. V. K. R. V. Rao as Chairman was appointed.

CHAPTER VI

MATERNITY AND CHILD WELFARE SERVICES

Since independence the maternity and child welfare services made good progress. Administratively the services became a part and parcel of health programmes of the States. Technical direction at the State level was provided and the services have become wide-spread through Primary Health Centres.

During the year under review the maternity and child welfare services in the States were augmented. The number of maternity and child welfare centres increased and the training programmes to the services were expanded. The international agencies continued their aid in this important field of health dealing with specialised groups of mothers and children.

Services—During the First Five Year Plan a sum of Rs. 50 lakhs was provided for expansion of the M.C.W. services in the backward rural areas. Under this scheme 201 M.C.W. units each serving a population of 60 to 70 thousand were established in association with the existing dispensaries. These centres would be integrated with the primary health centres. As the central assistance had to be continued for 2 years from the date of opening of these centres the scheme had to be continued till the end of the year 1957-58 and assistance was provided to these centres which were not integrated with the primary health centres. A sum of Rs. 5 lakhs was provided as committed expenditure during 1957-58 for assistance to States to maintain Maternity and Child Health Centres. Since the importance of the Paediatrics services has been recognised, a sum of Rs. 45 lakhs was provided in the Second Five Year Plan to assist the medical colleges to improve Paediatric training so that the medical personnel can, during their training receive adequate instruction in the subject and would be better equipped to play their role in child health services. Paediatric centres established at the Osmania Medical College, Hyderabad, Niloufer Hospital, Hyderabad and Shri Avittom Therumal Hospital attached to the Medical College, Trivandrum, in the Kerala State and about Rs. 2 lakhs were sanctioned as grants during 1957-58. It was also proposed to establish three such centres in Bihar, Uttar Pradesh and Punjab.

Training—One of the important aspects of the development of maternity and child welfare services in the country has been training of different personnel to man the services since a large bulk of mid-wifery services in the villages would continue to be rendered by dais already practising in the villages. A short six-months course was designed in the Second Five Year Plan to orient them in the modern techniques of asepsis and made better and fuller use of their services. It was provided in the Plan to train 36,000 dais and Rs. 90 lakhs was provided therefor. Training was to be imparted at the health centres and in the existing maternity and child welfare centres. Under this programme several central grants were made to different States. The following table gives the details of the programmes and grants given to the various States:

State	Amount sanctioned	No. of dais to be trained
1956-57		
Andhra	48,600	360

State	Amount sanctioned	No. of dais to be trained
1957-58		
Andhra	35,200	720
Bombay	25,200	420
Madras	1,44,000	900
Mysore	1,05,600	660
Orissa	57,600	360
Rajasthan	28,800	180
Andaman & Nicobar Islands	—	25 (during plan period)
Laccadiv Minicoy and Amindivi Islands	—	14
Manipur	3,600	60
Pondicherry	9,600	60
Tripura	—	20

The training of health visitors was continued during the year and expanded at the following health schools which have already been in existence:

1. Government Training School for Health Visitors, Madras.
2. Silver Jubilee Health School, Lucknow.
3. Nagpur Health School.
4. Health Visitor's Training School, Visakhapatnam (Andhra Pradesh).
5. Punjab Health School, Amritsar.
6. Niloufer Health School, Hyderabad.
7. Sirur Health Unit, Bombay.

A budget provision of Rs. 5 lakhs was made during 1957-58 for assisting the State Governments for these training programmes. Six more health schools were also established, two in U.P., one in Gujarat, one in Madhya Pradesh, one in Kerala and one in Bihar. The table gives the number of maternity and child welfare personnel who were admitted and qualified during 1957 from the various health schools in India.

	No. of candidates admitted for training		No. of candidates qualified	
Existing Schools	Health Visitors course	Integrated Midwifery-cum-Health Visitors course	Health Visitors course	Integrated Midwifery-cum-Health Visitors course
Lucknow	144	224	52	—
Delhi	113	149	95	28
Nagpur	66	13	42	11
Visakhapatnam	5	48	5	—
Madras	67	29	54	—
Amritsar	—	60	—	7
Hyderabad	43	84	30	—
*Sirur	13	—	13	—

*Centre for Public Health orientation course only.

In addition 174 Nurse-Midwives have had public health Orientation and employed in place of Health Visitors.

New Schools	No. of candidates admitted for training		No. of candidates qualified	
	Health Visitors course	Integrated Midwifery-cum-Health Visitors course	Health Visitors course	Integrated Midwifery-cum-Health Visitors course
Rajkot	12	14	—	—
Allahabad	—	41	—	—
Bareilly	7	35	—	—
Indore	—	53	—	24
Trivandrum	37	—	—	—
Ranchi	—	28	—	—

International assistance—As already mentioned above the development of maternity and child health services continued to be assisted during the year by the W.H.O. and the UNICEF. The UNICEF supplied equipment drugs, diet supplements and milk for under-nourished children. All the supplies viz. A & B. M.C.H. equipment along with drugs and diet supplements, midwifery kits, dais teaching sets, Bicycles etc. were made available in the Rs. 50 lakhs scheme of the Government of India to the various maternity and child welfare Centres, which were making full use of these equipments. About 2,000 maternity and child welfare centres received already assistance from the UNICEF.

50-A and 50-B. M.C.H. equipment made available by the UNICEF during 1957-58 were also distributed to such centres which were not covered under the Rs. 50 lakhs scheme and the State maternity and child health programmes.

Besides general programme for improving the services, the UNICEF provided assistance for paediatric training programmes in Madras and Hyderabad and similar assistance was expected for paediatric training programme in Bombay during 1958.

In addition to the 10 States in which comprehensive maternity and child health programme was continued, plan of operations in respect of comprehensive maternity and child health programmes in Andhra Pradesh was finalised and was in progress. Similar programmes were also proposed to be organised in the States of Punjab, Orissa and Jammu & Kashmir. Teaching equipment was also provided to the additional six health centres mentioned above.

The international assistance was also made available in respect of training too. A three month's refresher course for 20 women medical officers was arranged during 1957 by the All India Institute of Hygiene and Public Health, Calcutta with the assistance of UNICEF. A two month's refresher course for Assistant Superintendents of Health Visitors Schools was held at Hyderabad during the year 1957. With the UNICEF assistance, 17 candidates from different States Health Schools took advantage of the course. Mention may also be made of a one month's Seminar for Superintendents of Health Visitors Schools held during the year with the UNICEF assistance. 14 candidates from different institutions participated in the seminar.

Table No. 43 gives necessary statistics regarding the number of maternity centres and maternity and child welfare centres in the different States during the year and the number of maternity beds and paediatric beds. The information from some States was not fully available. However, as may be seen from the statement, only 4 States namely Madhya Pradesh, Manipur, Tripura, Andaman and Nicobar Islands had the number of maternity beds more than the set standard of one bed for 100 births. In most of the areas the institutional maternity services were quite inadequate. Even in States like Bombay, Delhi, West Bengal and Madras, where there were a large number of beds in the urban areas the provisions for the State as a whole was below the set standard. The States of Bombay and West Bengal appreciably increased the number of beds in the rural areas as compared to the previous years. Provision of paediatric beds was, however, most inadequate and in most of the States the provision was less than the standard.

As a result of the improved facilities for midwifery services the percentage of births which received skilled care varied largely from State to State. The figures for Uttar Pradesh, Kerala, Orissa, Madras and Himachal Pradesh were respectively 15.1, 56.6, 40.0, 42.01 and 7.0.

The data on maternity and child welfare services both for institutional as well as domiciliary services was incomplete. A good deal has to be done by those concerned to improve the data by way of scrutiny from each district and each centre before compiling them. Without suitable data the progress of the work in this important sector of maternity and child welfare services would not be possible to judge the progress from time to time.

The activities of the States in respect of maternity and child welfare services are briefly given below:—

Andhra Pradesh—The State Government made efforts towards the development of domiciliary midwifery services throughout the training of health visitors and auxiliary nurse midwives until they were appointed at the primary Health Centres and the sub-centres of the periphery. Apart from the usual health visitor's training programme, health visitors were trained with the Government of India assistance. Training of indigenous dais was carried out since 1940 in the Telengana part of the State and the central assistance programme was introduced during the year, 1955. During the year 1957 the total number of 657 indigenous dais were trained as against 395 during 1956 in the State of Andhra Pradesh. The collaboration of international personnel with the Hyderabad W.H.O. and M.C.H. nursing training project which ended by 1957 with the assignment of international personnel, was continued with national counterparts to the International personnel. The W.H.O./M.C.H. Nursing Project, Visakhapatnam commenced during 1956-57 and was continued successfully with the international personnel. The UNICEF offered assistance of the equipment worth Rs. 9,60,000 approximately for this project.

In the urban areas the immunisation of infants against Diphtheria, Whooping Cough and Tetanus was, to some extent, carried out and the vaccination programme was also carried by the health visitors at the City Maternity and Child Health Centres.

Assam—The maternity and Child Welfare services were organised under the charge of maternity and child welfare officer. The scheme regarding their welfare made considerable progress by way of increase in the number of centres all over the State. The number of lady health visitors were increased from 8 to 12 and 105 trained personnel Mid-wives, Health Visitors and Dais were employed in the Maternity and Child Welfare Centres and the staff was mainly engaged in the health visiting services. No home nursing service was taken up during the year under review.

Regarding training, the number of institutions where training was imparted was 14 in number and during the year under review 1,106 were trained in different categories of Mid-wives, Auxiliary Nurse Mid-wives, Lady Health Visitors, Dais and in Home Nursing.

Bihar—Two schools for training of nurses, one at Patna Medical College Hospital and the other at Darbhanga Medical College functioned during the year and 2 schools for training of health visitors and 4 schools for training of Auxiliary midwives functioned side by side.

Bombay—The nucleus of Maternity and Child Welfare services was considerably enlarged to give benefit to greater number of people in the Marathwada region. All the District headquarters in the region got child welfare centres and qualified health visitors were appointed in these places. Primary Health Centres in the rural areas had qualified health visitors to look after children of the area. Local bodies had their own centres maintained by them and there was one Maternity Hospital consisting of one or two beds under the local bodies. Under the supervision of the WHO Nurse Domiciliary Mid-wifery was started under the scheme of the M.C.H. services by the Medical College and Hospital at Nagpur. A Maternity Ward also functioned during the year as part of the Civil Hospital at Bhir and a Welfare Centre run at V.J. Hospital, Bombay and various services like Dental check up and Tuberculin test vaccines health check up were provided in these centres.

Kerala—The activities of the M.C.H. Centre of the Directorate of Health Services made good progress during the year. 26 new 2 bedded M.C.H. Centres each with the staff of one midwife and one Aya started in 1957. The WHO/UNICEF sponsored M.C.H. Project was completed and one nursing school was started during the year.

Madhya Pradesh—The total number of rural and urban maternity and child welfare centres in the State were 89. The Maternity Centres at Saragaon and Belsondha were opened in the rural areas near Raipur under the Kasturba Trust during the year under review.

As regards training, the health visitors were trained at J.A. Hospital, Gwalior and 10 candidates were admitted to the course. Training of nurses were continued at 7 hospitals located in different cities. Training of M.C.W. Health Visitors at J.A. Hospital, Gwalior and the M.Y. Hospital, Indore was upgraded with the assistance of the Government of India and a new Health School was established in conjunction with the School of Nurses at the M.Y. Hospital, Indore from 1st November 1957. At the beginning of the year, 241 student nurses were under training. 68 Candidates were added thus bringing the total to 309.

The introduction of public health and Basic Nursing curriculum was done at all the Nursing Centres including that of M.Y. Hospital, Indore. Auxiliary Nurse-midwives were trained in six training centres and in all 60 were qualified out of 110 who were under training and there were proposals to open two new centres and upgrading of 11 centres for training of Nurses and Midwives. On account of paucity of midwives to execute the development schemes the concept of training of non-professional Dais was continued during the year.

Mysore—A separate Bureau of M.C.W. Centres were established in the Public Health Department during the year for coordinating and intensifying programme for child welfare. The Bureau was responsible for organising various M.C.H. training programmes in the State.

201 M.C.H. Centres were sponsored and aided by the UNICEF and free distribution of milk powder was done in all the rural areas through their respective district officers and coordination committees under the Deputy Commissioners of the districts.

The M.C.H. service was as usual undertaken in all the health units in the State. The Unit provided usual services such as Domiciliary midwifery, immunisation and health visiting in all the villages under their jurisdiction. Paediatric services were also provided in the hospitals under the medical department.

Punjab—There were 125 M.C.H. Centres and 54 Primary Health Units in the State. M.C.H. services were considerably augmented both qualitatively and quantitatively. However, output of lady health visitors and auxiliary mid-wives was not enough to man the Government and the private M.C.H. Institutions. The Family Planning work was also being conducted at the M.C.H. Centres and Primary Health Unit as an integral part of the M.C.H. Services.

Rajasthan—As in the other States the Maternity and Child Welfare Services in the rural areas radiate from the Primary Health Centres. The M.C.H. Wing of these centres consisted of a lady doctor, one health visitor, four midwives and other staff. Each centre had 4 sub-centres managed each by one midwife supervising the work of indigenous dais in the area. During the year 1957, the number of Maternity and Child Welfare centres were 65 as against 45 in 1954.

Efforts were also made to open such centres at all the Janana Hospitals and at maternity homes and these centres provided domiciliary midwifery anti-natal and post-natal services and those relating to infants and toddlers welfare. During the year milk powder and diet supplements namely vitamin tablets and other simple medicines as gifted by UNICEF and other agencies were supplied to mothers and children. The training of indigenous Dais were provided at the centres situated at Bikaner, Suiangarh, Kishangarh, Sambhar, Sikar Dausa and Partapgarh, and each Dai was paid a stipend of Rs. 10 per month during the period of training. At the end of training they were given a certificate and Dai's Kit. Similar training centres for domiciliary midwives were opened at the Divisional headquarters Jodhpur, Bikaner, Udaipur, Kota and Alwar.

Uttar Pradesh—During the year 1957, 71 rural maternity centres were established, 44 of which were situated in the Primary Health Centres and 27 under the scheme included in the Second Plan period. In the State all the rural maternity centres were maintained by the Government and those in the municipalities by the Municipal Boards. Out of 49 Districts in the State 35 had health visitors for supervision of the work of midwives in those districts.

To provide personnel for expansion of the M.C.H. Services in the Second Five Year Plan two additional schools for training of health visitors with capacity to admit 60 in each year were established during the year. Similar six midwives training centres with a capacity of 40 each were also established. In order to encourage the training of Auxiliary Midwives, six of the midwives training centres were converted into schools for training Auxiliary Nurse-midwives and it was proposed to convert the other schools also very shortly. Two posts of Regional M.C.H. Officers with one Public Health Nurse attached to each were created during the year.

Each of the M.C.H. Centres of the State Government had provision for training 4 to 5 village Dais along with a stipend of Rs. 17.50 p.m. 254 M.C.H. Centres received UNICEF supplies of basic equipment, drugs and Diet Supplements during the year.

West Bengal—Paediatric services were given through maternity and child welfare centres, health centres, children's hospitals and general out-patients' departments of different medical institutions, and dispensaries. One Child guidance clinic at the All-India Institute of Hygiene and Public Health and one Nursery School were functioning during the year under review. Maternal health services were conducted through the 61 hospitals with maternity wards and 7 maternity hospitals, 209 maternity child welfare centres, 6 maternity home and 297 health Centres. There were altogether 3,763 beds in the above Institutions during the year 1957.

In the Second Five Year Plan an integrated scheme to open M.C.H. and Family Planning Centres was taken up in order to carry out both M.C.H. and Family Planning work in the rural and urban areas. The scheme provided for opening 102 such centres at a total cost of Rs. 37 lakhs. During the year under report, 18 M.C.W. and Family Planning Centres were opened. Medical Officers, Lady Health Visitors and trained dais attached to the maternity and child welfare institutions and Health Centres, attended mothers and their homes as well as at the clinics of the institutions. Almost every Maternity and Child Welfare Centre was provided with most of the equipment required for proper pre-natal and post-natal care. There were four institutions for training of Auxiliary Nurse-Midwives and 36 for Midwives during the year under report. 651 Auxiliary Midwives and 51 Midwives were trained in 1957 besides four training institutions for M.C.H. Officers and 2 institutions for Lady Health Visitors and one for Public Health Nurse. 35 M.C.H. Officers and 14 Lady Health Visitors were trained during the year. At the Post-graduate training centres 28 doctors in Paediatric and 44 doctors in Obstetrics were trained during the year.

Regarding the Family Planning Services free advice of family planning was given at the M.C.H. Family Planning Centres opened during the Second Plan. Family Planning Centres with the central grant were also established by the voluntary organisations. During 1957, 53 doctors, 7 social workers, 54 lady health visitors and 3 public health nurses were given training in Family Planning. Sterilisation operations were also done during the year and they amount to 754 both in males and females together.

Delhi—The Maternity and Child Health Services were provided in 53 maternity and child welfare Centres and 17 sub-centres under the Municipal Corporation of Delhi. Mothers requiring anti-natal care were examined in the centres and abnormalities detected and deficiencies treated. The confinements were conducted in their homes by dais and they were supervised by the Lady Health Visitors. Dais were trained in the various Maternity and Child Welfare Centres under Municipal Corporation.

Himachal Pradesh—Thirty three M.C.W. Centres functioned in the territory of which 12 were located in the urban areas and the remaining in the rural areas. The activities of these centres were located within a radius of five miles.

Domiciliary services, child welfare, infant care and health services were given to the population living within these areas. The Home Nursing services was still in the infant state.

Dearth of trained health visitors in these territories was felt and a training school for health visitors was proposed to be started during the Second Plan. A training school for Nurses continued to function along with two training schools for Auxiliary Nurse-midwives. The registration of health visitors was not made in this territory but was done in the adjoining States of U.P. and Punjab.

Pondicherry—Three maternity and child welfare centres functioned in the territory. Domiciliary deliveries and home visits were regularly done by the health visitors and midwives, vaccination and immunisation by the male nurses. There was no training school for health visitors or nurses or midwives.

Tripura—The Maternity and Child Welfare Centre at V.M. Hospital, Agartala continued to function during the year and the provision of maternity beds at sub-divisional hospitals and primary health centres also continued and domiciliary facilities were provided to patients referred to the sub-centres attached to the primary health centres.

Andaman & Nicobar Islands—The anti-natal and post-natal clinic attached to the Female Ward of the Civil Hospital at Port Blair continued to function and it was attended by a large number of patients drawn from Port Blair and adjacent villages. Regular home visiting was done for infants and anti-natal cases by the lady health visitors. Under the Second Five Year Plan it was proposed to open 4 M.C.W. centres in the Islands.

CHAPTER VII

NURSING

Nursing services which constitute an integral part of the health services have made good progress in 1957. Table No. 44 shows that the number of schools for training has increased during the year 1957. The number of students under training has also increased appreciably because of a larger intake in some schools. The number of registered nursing personnel for the whole country can be seen in Table No. 45.

Systematic efforts continued to be made by the State Governments to improve the working conditions of services.

The conditions of nursing in different States and Union Territories during the year are highlighted as below:—

Assam—The State Government allocated a sum of Rs. 234,948 for the improvement of nursing conditions out of which Rs. 1,15,402 was spent. The State Government prepared plans for more hostel accommodation and homes for nurses were also constructed. An Assistant to the Superintendent of Nursing Services to the State was appointed on account of the increase of nursing staff.

A nurse was sent to Australia on Fellowship under the Colombo Plan and four persons were sent to Delhi for the B.Sc. Nursing Course.

Bihar—The State Government allocated a sum of Rs. 5,14,356 for nursing services during 1957-58 out of which 3.32 lakhs were spent. The question of establishing a State Nursing Service was also under consideration. However, the shortage of nursing staff still continued to be felt during the year and many posts remained vacant despite efforts to fill them. There was no shortage of candidates for training and adequate hostel accommodation was available for nurses and students.

Jammu & Kashmir—Most of the nursing posts were filled although there was a shortage of midwives in the State.

Kerala—The Nursing Services were reported to be satisfactory although there was a shortage of staff nurses.

Madhya Pradesh—There was a shortage of nurses in the hospitals and to meet the shortage, 7 nursing training schools with a capacity for 305 students and 2 schools for health visitors with a capacity of 30 students each continued to function during the year. The capacity of the school at Indore was increased to 60. Centres for training midwives were converted progressively into centres for training auxiliary nurse-midwives. Steps were also taken to provide more and better accommodation by constructing new hostels. A nurse was granted a fellowship under the Colombo Plan for study in Australia. Seven nurses were deputed for the post-graduate course in teaching and public health nursing to Delhi and Calcutta. The State Government received 60 thousand rupees as Central Government grant-in aid for training of auxiliary-nurse-midwives.

Madras—The shortage of nursing staff persisted during the year although sufficient accommodation was available for nurses and students. The question of creating a post of Nursing Adviser in the State was under consideration. Two training schools for auxiliary nurse-midwives were started during the year.

Mysore—The scales of pay of nursing posts were upgraded and the stipend rates for students were also enhanced, so that better candidates could be attracted for nursing. The shortage of trainees persisted however, in the hospitals and dispensaries in the district and the rural areas.

Orissa—To meet the shortage of nurses in the State, several measures were undertaken by way of expansion of training programmes and upgrading of scales of pay and by requisitioning the services of the headmasters of the schools to recruit better type of candidates and by providing better amenities. Three new training schools for auxiliary-nurse-midwives were started. Plans to construct new extensions to hostels was implemented at a cost of Rs. 4 lakhs. A proposal was also under consideration to create the post of the Chief Nursing Superintendent.

Punjab—The position regarding acute shortage of nurses was reported to have eased to some extent during the year although trained nurses in sufficient number were not available with the result that many posts were left vacant. A proposal for the formation of a State Nursing Service was under consideration. Seven new schools were started for the training of nurses and auxiliary-nurse-midwives. Two candidates were sent to the College of Nursing, New Delhi for B.Sc. (Hons.) Nursing Course. One nurse took an advanced course in Australia in nursing.

Rajasthan—To meet the shortage of nurses two training schools for nurses and one for auxiliary-nurse-midwives were started during the year under report. Besides the number of admissions was also raised in the existing schools. A post of the Superintendent of Nursing Services was created during the year. A Nursing Adviser from T.C.M. continued to provide her services in the State.

Uttar Pradesh—The shortage of nurses persisted during the year under review, and efforts to improve their working conditions were circumscribed by shortage of funds. Residential accommodation was inadequate.

No dearth of suitable candidates for training was felt and advantage was taken for training at the College of Nursing, New Delhi. One matron was sent to Australia for training in Nursing Administration.

West Bengal—The nursing service was re-organised and rationalised. Over 3,000 additional posts were created during the year, besides sevikas or nursing students who constituted a separate cadre in the service. The service was also made permanent and provision was made for pension and gratuity. Better service conditions were offered to the nursing staff of all categories. The post of Superintendent of Nursing was upgraded and redesignated as Assistant Director of Health Services (Nursing). Two additional posts of Deputies were also created to assist the Assistant Director in the development and improvement of nursing services and education in the State. A Nursing Advisory Commitee was also appointed to advise on nursing matters. The curriculum of nursing education was also re-organised and principles of public health nursing introduced in the basic nursing course. The living facilities for the nurses were quite satisfactory. Six new auxiliary nurse-midwives training schools were started. Six candidates were sent for the B.Sc. (Hons.) Nursing Course at the College of Nursing, New Delhi and a Nurse was sent to Australia for training in Ward Administration.

Delhi—Shortage of trained nurses was felt although there was no shortage of suitable candidates for training in nursing.

Himachal Pradesh—The nursing service in the territory was marked by an acute shortage of trained staff due to difficult living conditions and lack of amenities in the territory. Efforts were made to fill up the vacant posts by offering advance increments. Efforts were also made to improve the nursing schools and to attract a greater number of students to nursing. Out of the budget provision of Rs. 4 lakhs, 2.93 lakhs approximately was spent on nursing services.

Manipur—Since the territory had no facilities for training of nurses, one auxiliary-nurse-midwives school was started with a capacity of 30 students and a proposal to start a similar school for nurses was under consideration. It may also be mentioned that the trained nurses from other States could not be recruited on account of the low scales of pay and lack of amenities in the territory.

Tripura—There was an acute shortage of trained nurses, because the area was a remote one and nurses from other States were not inclined to take up services in the territory.

Andaman & Nicobar Islands—The conditions in the territory were marked by a shortage of nurses and lack of training facilities. Trained nurses were required to be recruited in the main land.

CHAPTER VIII

MEDICAL EDUCATION AND REGISTRATION

Towards the creation of better preventive and curative services in the country provision of necessary medical education to increase the output of doctors and other personnel is paramountly important for the execution of the Five Year Plans which the Government of India has embarked upon. Rapid expansion of medical education in the post-independent era took place. The number of medical colleges increased from 29 in 1950 to 46 in 1956 and the admission of students rose from 2,675 during 1950 to 3,958 during 1956. The number of colleges at the end of 1957 in the country was 48, and the Statewise distribution, along with the number of students admitted and passed during the year under review is given in Table No. 46.

Activities of the Central Government:

During the Second Plan period (1956—61) the important highlights of the activities of the Union Government envisaged were the upgrading of certain departments of medical colleges and research institutions for providing post-graduate training and establishment of the Departments of Social and Preventive Medicine in medical colleges.

Rs. 650 lakhs were allotted for the Plan period for the establishment and expansion of medical colleges. During 1957-58 it was decided to assist the State Governments to open new medical colleges in Bhopal, Jabbalpur, in Madhya Pradesh, Kozhikode in Kerala, at Jamnagar in Bombay, at Ranchi in Bihar, at Kanpur in Uttar Pradesh and Hubli in Mysore. For the expansion of medical colleges the Government decided to give financial assistance to 13 medical colleges during 1957-58.

With a view to giving post-graduate training to selected doctors to render them fit for teaching in research work, the scheme for the upgrading of certain departments in medical colleges and research institutions in the country, although started in 1948, has made notable progress since then. For this scheme a provision of Rs. 25 lakhs was made in the Second Plan out of which 7 lakhs were earmarked for the year 1957-58. By the end of 1957-58, 10 institutions were upgraded and facilities were provided for training in different subjects, *viz.*, M.D. (Midwifery) M.Sc., Ph.D., D.T.D., D.C.H., T.S., D.G.O., D.V., D.P.M., D.M.P., Pathology etc. The total number of candidates during 1957-58 in these different courses were 79 (as against 67 during 1956-57) of which the maximum were trained in D.G.O. (21 candidates).

The concept of Social and Preventive Medicine is of recent origin and has been lately introduced in the medical curriculum. During 1954-55 it was decided to establish Departments of Social and Preventive Medicine in Medical Colleges in India. During the First Plan such departments were established in six medical colleges in different places. During the Second Plan Rs. 25 lakhs were provided for the scheme and it was envisaged by the Central Government to pay 50 per cent of the expenditure on the departments as grants-in-aid. During 1956-57 four departments out of five envisaged during the Second Plan were sanctioned in Madras, Jaipur, Calcutta and Cuttack.

In the field of post-graduate medical education, the institutions established therefor made steady progress during the year under review. The All-India Institute of Medical Sciences, New Delhi continued its undergraduate course started during 1956. Another batch of 50 students was admitted in August 1957. A two years' post-graduate training course started in April, 1956 continued during the year and one student was admitted in September, 1957. Upto the end of November 1957, the number of teaching staff appointed was 33 including 8 professors. For expansion of the Lady Hardinge Medical College and Hospital, New Delhi, Rs. 50 lakhs were earmarked and during 1957-58 a Professor in Clinical Surgery and a Professor of Clinical Medicine were appointed.

For the improvement of All-India Institute of Mental Health, Bangalore, a scheme was provided in the Second Plan at a cost of Rs. 41.0 lakhs for the Plan period and 37 candidates were under training during the year under review in the three courses of D.M.P., D.P.M. and D.P.N. The Institute was upgraded in 1957 to a post-graduate institution. Similarly, the Vallabhbhai Patel Chest Institute, Delhi, was upgraded to a post-graduate Institute in 1957 and its activities comprised both research in chest diseases and training candidates for D.T.D.

Apart from the different facts of improvements of the medical education given above, the Government of India contemplated a scheme at a cost of Rs. 2 crores in the Second Plan for the grant of subsidy for full-time teaching units in the medical colleges, both clinical and non-clinical of the State Governments, and of statutory universities. The proposals in this respect were still under consideration.

Medical Council of India:

The Medical Council of India, ever since its inception, has been devoting its attention to the task of ensuring uniform minimum standards of qualifications in medicine in all the provinces and recognition of the medical qualifications and improvement of research in medical colleges. The Council has an important task to fulfil and by its strenuous efforts has contributed towards the maintenance of high standards of under-graduate and post-graduate medical education in the Colleges and Universities in India.

Recognition of qualifications:

No change and amendment took place in the Act and constitution of the Council during 1957 nor in its rules and regulations. No change was also reported in the recommendations of the Council on professional education nor in the eligibility qualifications for admission in the regular under-graduate courses. In Table Nos. 47 and 48 are reproduced Schedules I & II to the Indian Medical Council Act, 1933, as enforced in 1957. The following qualifications were added in the Second Schedule during 1957.

1. M.B.B.S. Degree of the Kerala University
2. M.D. (Medicine and Therapeutics)
3. M.D. (Pathology and Bacteriology)
4. M.S. (General Surgery)
5. M.Sc. (Physiology)

} All of the Rajasthan University.

No deletion of the qualifications in the schedules was done except the deletion of the annotation, (b) appearing against the University of Malbourne under the heading "Victoria" in Schedule II (Table No. 48) to the Indian Medical Council Act, 1933.

The Council agreed to the continuation of the condensed course for another 5 years for 1956 to 1961 provided arrangements for the teaching of regular students were not affected thereby and suitable arrangements existed for the training of the students in those courses. It was also decided by the Council that post-examination training for regular M.B., B.S. students should not be enforced in respect of the condensed course students going for M.B., B.S. degree, on the condition that they had satisfactory record of profession.

In the field of post-graduate medical education the Council circulated its recommendation to the various universities and medical colleges for information and necessary action. The resolution requested for the opinion on the action taken by the Universities in regard to the appointment of the boards of post-graduate education and research within the Universities and the syllabii drawn and the types of research set up in the various subjects by them.

The Council also recommended the diploma of Medicine awarded by the Medical School of Pondicherry to be included in the First schedule to the Indian Medical Council Act, 1933. Opinion was also expressed by the Council that the diploma be equated with licentiate qualification like M.M.F. and M.C.P.

The Council also approved the eligibility qualifications for the appointment of teachers and approved the following qualifications:—

1. F.R.F.P.S. (Glasgow) in the subject of Obstetrics and Gynaecology as sufficient post-graduate qualification for the appointment of a Professor.
2. M.Sc. (Pharmacology and Pathology) for the appointment of teachers in the subject.

It was also accepted by the Council that the qualifications granted by the State Medical Faculty of West Bengal under statutes 6(C), 6(D) and 6(E) be included in Part I of the Third Schedule to the Indian Medical Council Act, 1956.

Inspections and Visitations:

The Council completed the third round of the inspections in respect of the under-graduate courses at the Gauhati, Poona and Utkal Universities as also the inspection for the M.B.B.S. degree granted by the Karnatak University. An inspection was also carried out for the diploma Medicine de 1: Ecole de Pondicherry granted by the Medical School of Pondicherry. The Council visitors carried out inspection of 12 colleges during the year and it was also decided to make arrangements for inspection by them at three different colleges affiliated to different Universities. The inspection reports of the Council were duly forwarded to the respective bodies for their observations.

Regarding the post-graduate inspections, these were done at the Universities of Agra, Andhra, Bombay, Calcutta, Lucknow, Rajputana and Punjab and the College of Physicians and Surgeons, Bombay for different degrees on various subjects. The Council recommended the following qualifications for inclusion in the first schedule and these were under the consideration of the Government of India.

Andhra University:

D.O. (Diploma in Ophthalmology)	Andhra Medical College, Visakhapatnam.
D.G.O. (Diploma in Gynaecology & Obstetrics).	
M.D. (Pathology & Bacteriology).	
M.D. (Medicine).	
M.D. (Obstetrics & Gynaecology).	

Aligarh University:

D.O. (Diploma in Ophthalmology).

College of Physicians & Surgeons of Bombay:

F.C.P.S. (Midwifery & Gynaecology).
F.C.P.S. (Ophthalmology).
D.P.B. (Diploma in Pathology & Bacteriology).
D.G O. (Diploma in Gynaecology & Obstetrics).
D.C.H. (Diploma in Child Health).

Poona University:

M.D. (Midwifery) B.J. Medical College, Poona.

Punjab University:

M.D. (Medicine)	Medical College, Amritsar.
M.D. (Pathology)	
M.D. (Physiology)	
M.S. (Ophthalmology)	
M.S. (Surgery)	
M.S. (Anatomy)	
D.O.M.S.	

Rajputana University:

M.Sc. (Medical)—Anatomy	S.M.S. Medical College, Jaipur.
M.Sc. (Medical)—Pharmacology	

Reciprocity:

The Council decided to reiterate its previous decision to establish reciprocity only on direct basis in case of South Australia, Netherlands and New Zealand. In regard to Victoria (Australia) the Council recommended to the Government of India to amend Schedule II so as to recognise the medical qualifications viz., M.B., M.D., B.S. and M.S. granted by the University of Melbourne (Victoria). The Government of India accepted the recommendation.

While the Council did not entertain indirect reciprocity, it, however, recommended registration of holders of non-scheduled foreign qualifications under special resolutions in the interest of medical education and relief in this country. Till the end of 1957, 149 foreigners and 23 Indians were recommended to the State Medical Councils for registration provided the latter did not engage in private practice for personal gain.

Miscellaneous:

On reference from the Government of India the Council considered the question of sterilization of males and females in hospitals and decided that males and females might be allowed to be operated upon for sterilization in hospitals and private nursing homes provided it was voluntary and with the consent of both the husband and wife.

In addition to the birds-eye view of the activities of the Central Government and of the Medical Council of India, in the field of medical education, those of the State Governments are equally important and these are briefly given below: —

Andhra Pradesh—A new medical college was opened during the year at Kurnool with 50 admissions in the first M.B.,B.S. Course. With the opening of this college the number of colleges increased to 5 in the State. The college was affiliated to the Sri Venkateswara University at Tirupati. At the Andhra Medical College, Visakhapatnam, diploma course in child health and clinical pathology was started during the year under report.

The admission capacity at the Sanitary Inspector course at Guntur Medical College was raised from 80 to 100. The Central Research Section was established there at during the year and Virus Diagnostic Centre was sanctioned by the Government of Andhra Pradesh. The College was also recognised as the post-graduate training centre during the year and the increase in annual admissions as recommended by a Commission of Andhra University.

At the Osmania Medical College, Hyderabad, six new full-time departments were created with the necessary staff and equipment and three special departments in Orthopaedics, Neuro-surgery and Psychiatry were established. New diploma and degree courses were also started in this college in addition to post-graduate courses already in existence.

Efforts were made to equip the medical colleges with highly qualified teachers and for this purpose several of them were deputed abroad with central and foreign assistance. The average annual expenditure for the four medical colleges at Visakhapatnam, Guntur and two at Hyderabad worked to be Rs. 5.82 lakhs per annum and the range of the expenditure varied from Rs. 1.93 lakhs to Rs. 7.98 lakhs.

Table No. 46 presents the number of students admitted and passed at the final examination in Medical Colleges of the States during the year under review.

Assam—There was only one medical college in the State functioning with a sanctioned strength of 100 seats for admission and there were no facilities for post-graduate teaching in the college nor any institution for teaching dentistry.

Bihar—Several officers of the State Medical Public Health Services were deputed for post-graduate studies for their respective subjects. The two colleges at Patna and Darbhanga continued to function during the year and the number of seats for admission for the latter was increased during the year from 60 to 70. A new medical college and Hospital at Ranchi was opened during the year. 214 students were being admitted at all the colleges in Bihar during 1957.

Two schools at the Patna and Darbhanga Medical Colleges Hospitals existed for training of A grade nurses. Similarly, for training of Lady Health Visitors, two schools functioned at Patna and Ranchi with a total capacity of 60. For training of auxiliary nurse-midwives and Dais, four schools and 28 Dais training centres functioned during the year.

Bombay—During the year under review the State of Bombay had nine Medical Colleges. The teaching staff on the Medical side was 317.

During the year the State Government sanctioned five research schemes in order to develop research at the hospitals and medical colleges.

Kerala—There were two medical colleges and three Nursing Schools in the State of which the Medical College at Kozhikode was started during the year. No facilities existed for post-graduate training and there was no institution for imparting dental education during the year.

Facilities existed for training of sanitary inspectors at the Medical College, Trivandrum and the Health Visitors' School, Trivandrum functioned during the year.

Madras—The University of Madras introduced pre-professional course for the degree course B-Pharma and B.D.S. of one year's duration and for students who had passed pre-university examination. This course was meant as a preliminary one for the regular study of the M.B.,B.S. and the courses mentioned above. The post-examination practical training was also introduced during the same year and entitled student's intership. Every student has to undergo practical training, after passing out the M.B.,B.S. course, for three months each in medicine, surgery, public health and midwifery. The degree would be awarded only after completing the practical training without any further examination.

In order to increase the facilities for the teaching of preventive aspects of medicine the Government of Madras established the department of social and preventive medicine in the Madras Medical College, Madras and the question of organising such a department at the Madurai Medical College, Madurai, was under consideration of the State Government. The Departments of Paediatrics and Radiology of the Government General Hospital, Madras and the Madras Medical College, Madras were upgraded with the assistance of the Government of India during the year. In the place of the D.M.R. course the D.R. course was introduced during the year.

The State of Madras had four medical colleges where 395 students were admitted during 1957.

Madhya Pradesh—During the Second Five Year Plan period the training schemes of the State were geared up to meet the requirements of trained man-power and in the four medical colleges which functioned during the year, the admission capacity was increased from 293 in 1956 to 359. The number of students admitted was 302 in 1957. It was envisaged that at the end of the Second Plan period it would be 400 at all the four colleges. Out of four medical colleges the Medical Colleges at Indore and Gwalior were post-graduate institutions providing special facilities for instructions in childrens' diseases, T.B. and Eye diseases at the former and for Radiology at the latter. It was also under consideration to start diploma in Gynaecology and in Public Health.

Regarding the training of para-medical personnel, two training centres for the training of sanitary inspectors existed at the Gwalior Medical College and at the Gandhi Memorial Hospital, Rewa, three centres for training of compounders and six schools for training of nurses. Besides, 10 seats were reserved for sanitary inspectors training in the Public Health Institute, Nagpur for the nominees of the new Madhya Pradesh State. Training facilities for technicians in radiology existed at the two hospitals at Gwalior and Indore while for the laboratory technicians facilities existed at the Medical Colleges at Indore and Gwalior and the Gandhi Memorial Hospital, Rewa. For the four teaching institutions a teaching staff of 411 functioned with 2,576 teaching beds for 1,124 students on rolls during the year under review.

Mysore—There were four medical colleges out of which the Karnatak Medical College, Hubli was started during 1957. The Government of

Mysore took over management of the Medical College, Bangalore during the year under review.

There were two post-graduate institutions at the University Medical College, Mysore and the All-India Institute of Mental Health, Bangalore. The latter was upgraded in 1957 to impart two courses D.P.M. and D.M.P. The training of Health Inspectors was imparted under the Bureau of Health Education in a nine-month course.

Orissa—There was only one Medical College with 49 teaching staff and 593 teaching beds. During 1957, the number of annual admissions was raised from 62 to 75.

There were no facilities for post-graduate education nor for dental education. Facilities for training of compounders existed at 12 district headquarters hospitals. During the course of the Second Plan, the college was proposed to be expanded.

Punjab—During 1957, there were three medical colleges with one school functioning in the State of Punjab. For the three medical colleges, 196 teaching staff were available with 1,064 teaching beds and 1,033 students on the rolls. The number of admissions in the 3 medical colleges was 210. Post-graduate training was available only at the Medical College, Amritsar. Training facilities for the various categories of para-medical personnel also existed, for nurses at 5 institutions; for Lady Health Visitors at 2 institutions and for Auxiliary Nurse Midwives at 7 institutions.

Rajasthan—There was only one institute in the State with 72 teaching staff and 900 teaching beds and 456 students on the rolls. The number of fresh admissions during the year was 85. At the College a number of Indian Council of Medical Research enquiries were conducted in several departments in the Departments of Medicine, Pathology, Physiology and of Bio-chemistry. There were no facilities for dental education in the State. It was also proposed to start another Medical College at Bikaner during the Second Plan period.

Uttar Pradesh—There were three medical colleges with a total teaching staff of 223 and the number of teaching beds were 1,997 and the number of students on rolls were 1,610. The number of fresh admissions during the year was 325. The Medical College at Kanpur started its first session during the year under review. The Department of Social and Preventive Medicine was started at the Medical College, Lucknow and sanction of the Government for upgrading of the Departments of Pathology and Pharmacology of the Medical College, Lucknow was awaited. For the training of auxiliary nurse-midwives 10 centres with a strength of 45 trainees in each Centre continued to work satisfactorily during the year. A proposal for the establishment of the Second Paediatric Centre at Agra was under consideration. Neuro-psychiatric clinics at the Medical Colleges at Agra and Lucknow were started during the year.

West Bengal—There were five medical colleges with a teaching staff of 458. The number of teaching beds were 3,125 and the number of students on the rolls were 3,138. The number of admission was 522 during the year. The Government set up the Institute of post-graduate Medical Education and Research at Calcutta admitting 32 students for M.D., M.S., M.O. and D. Phil (Medicine & Pathology). Four new training centres were opened at selected districts headquarters for providing facilities for training to nurses at the Institute. Post-graduate training for diploma in clinical Pathology was also introduced during the year.

Delhi—Two Medical Colleges, the All-India Institute of Medical Sciences and the Lady Hardinge Medical College and Hospital continued to function during the year. These two colleges were also provided with post-graduate courses. Mention may also be made of the Post-graduate and research institutions, viz., Vallabhbhai Patel Chest Institute, Delhi and of the Malaria Institute of India, Delhi.

Pondicherry—The Medical College, Pondicherry was started in 1956 and its admission capacity was increased from 20 to 50 in 1957.

CHAPTER IX

DENTAL EDUCATION, REGISTRATION AND RELIEF

Dentistry has been a neglected subject and has not been accorded its due importance inspite of the fact that dental services in the country are very much needed to serve the growing population of India. This can be seen by the fact that until 1941 there were only three colleges which were training dentists for the country. In 1946 the Bhore Committee recommended many measures to improve not only the dental services but also to expand dental education at the graduate and the post-graduate levels. After the advent of independence the Government of India recognised the importance of dental education and services, and it was gratifying to note that two dental colleges, at Lucknow and Amritsar were established in 1949 and 1952 respectively and the Dental wing of the Madras Medical College, Madras, was established during 1953.

Dental Education and Registration:

There were only six dental colleges during 1955 functioning and the Dental Wing, Government Medical College, Patiala was opened during 1956. The total number of dentists registered upto 2nd April, 1957 in the various States both in Parts A and B are given below. It is not surprising that with such a small number of dentists the dental services in the country are badly neglected.

Total number of Dentists Registered in different States

State	Part 'A'	Part 'B'
Assam	11	42
Bihar	23	78
Bombay	278	552
Delhi	19	139
Kerala	13	†
Madras	33	286
Madhya Pradesh	18	69
Orissa	3	8
Punjab	46	688
West Bengal	165	289
Uttar Pradesh	60	315

†Not available.

During Second Plan Period, the dental education programme was envisaged in two ways.

1. Opening new dental colleges and expansion of the existing colleges, and
2. Provision of post-graduate training for teachers of dental college.

It was also envisaged to provide facilities for dental practitioners for procuring transfer from Part B to Part A of the Dental Register by suitable training of dentists. A sum of Rs. 75 lakhs was allocated for the establishment of new dental colleges and expansion of the existing ones, in the Second Plan of the Central Government and similarly the States made a provision of Rs. 53 lakhs nearly.

Proposals were received by the Central Government from Governments of Uttar Pradesh and Madras regarding the expansion of the K. G. Medical College, (Dental Wing), Lucknow and of the Dental Wing of the Madras Medical College. The scheme of the Madras Government envisaged the expansion of the dental wing by increasing the number of admissions from 20 to 30. The scheme was approved by the Central Government for the grant of 1.5 lakhs during 1957-58. Similarly the Lucknow Dental College and Hospital envisaged the expansion of the number of admissions from 20 to 40 and the Government of India approved the scheme and sanctioned Rs. 2.13 lakhs to the College during the same year.

The Government of India approved, for post-graduate training of dental teachers, the upgrading of the two colleges Sir C. E. M. Dental College and Hospital, Bombay and the Nair Hospital Dental College, Bombay with the financial assistance to the former to the extent of Rs. 97,500 (non-recurring) and Rs. 6.9 lakhs nearly (recurring) during the Second Plan period and with an assistance of Rs. 1.3 lakhs (non-recurring) and Rs. 9.1 lakhs nearly (recurring) to the latter. At the Sir C. E. M. Medical College, Bombay the Departments of Orthodentia and Prosthetic Dentistry Departments were proposed to be upgraded. The curricula and regulations for the Master's degree course in dentistry was approved by the Central Government and the courses at the College was proposed to be started as soon as the Dental Faculty of the Bombay University approved of them. At the Nair Hospital Dental College, Bombay, the Departments of Oral Surgery, Pathology and Bacteriology, Operative Dentistry and Dental Radiology were approved for upgrading by the Government of India. Sir C. E. M. Dental College was also proposed to be expanded by the Government of Bombay so as to admit 100 students instead of 40. Similarly the expansion of the admission capacity from 14 to 30 of the Dental Wing of the Amritsar Dental College was also envisaged by the Government of Punjab.

The Central Government approved also the minimum basic qualifications for teaching staff for the M.D.S. Course in a dental institution as recommended by the Dental Council of India. The qualifications were as follows:—

Professor and Head of each Department:

He should have a M.D.S. or M.S. or Ph.D. or D.D.Sc., or F.D.S.Q.C.S. or an equivalent post-graduate qualification recognised by the Dental Council of India with one year's teaching experience in India or abroad.

Assistant Professor:

He should have a B.D.S. or an equivalent qualification recognised by the Dental Council of India with three years' teaching experience.

Dental Services:

In order to improve the dental services in the country, it was proposed to establish 350 dental clinics in district hospitals (in the Second Five Year Plan of the Central Government with a provision of Rs. 151 lakhs). Under the scheme financial assistance to the extent of Rs. 15,000 (non-recurring) for the purchase of equipment and Rs. 6,600 per annum for recurring expenses and the pay and allowance of the staff of the clinic, was proposed. Out of 27 dental clinics approved for 1956-57, 11 clinics were established, in the States of Kerala (3), Uttar Pradesh (2), Bihar (2), Andhra Pradesh (2), and of Punjab (2).

During 1957-58, 26 dental clinics were approved of which 25 were established in the States of Andhra Pradesh (4), Bihar (2), Jammu and Kashmir (2), Kerala (3), Madhya Pradesh (1), Madras (3), Punjab (2), Rajasthan (4) and of West Bengal (4).

The Dental Council of India:

During 1957 the Council devoted its attention to the provision of educational facilities and to maintain the minimum standards of the existing courses in dentistry. The curricula and regulations for a certificate course in public health dentistry was finalised in consultation with the Director of the All-India Institute of Hygiene and Public Health, Calcutta and it was expected that the course would start in the middle of 1958. Also, the Council made endeavours in providing training facilities at the Dental Hospital, Lucknow for enabling dentists registered in Part 'B' of the Dental Register to procure transference to Part 'A', after passing a set examination arranged by the Government of India in consultation with the Government of Uttar Pradesh. The training of the first batch was proposed to be started from March, 1958.

The Council proposed to start training for Examination No. II and the Central Government after approval, addressed the State Governments in the matter. The Council accorded its recognition for purposes of regulation No. 4 (Regulations for Examination No. I and II) whereby a candidate wishing to appear in any of the two examinations was required to produce a certificate of having had training for a period of at least six months at a Dental Department of general hospital recognised by the Council for the purpose.

During the year the Council also inspected the adequacy, and the facilities existing for teaching, of degree courses at the Dental Wing of the Madras Medical College, Madras and the standard of the final B. D. S. examination of the Madras University conducted by them. After inspection the Council approved of them, subject to the proviso that the deficiencies pointed out by the Inspector should be remedied by October, 1959 when the Council would re-examine the position. The Council also recognised the B.D.S. Degree of the Madras University under Section 10(2) of the Dentists Act, 1948.

The Council approved the Board of Examination for the Primary and Final Dental Mechanics Examination to be held in 1958 at the Sir C.E.M. Dental College and Hospital, Bombay. Forms of the Certificates which were to be awarded, were standardised by the Council and these forms would be issued to all the institutions imparting such courses.

The following amendments were made during the year under review: —

1. Amendments to regulations for examinations No. I and II under Section 33 and 34 of the Dentists Act, 1948, rendered necessary by the passage of the Dentists Amendment Act, 1955. The approval of the Government of India to these amendments were awaited.

2. As a result of an amendment to Section 3(c) of the Dentist Act, 1948 by the passage of the Dentist Amendment Act, 1955 the relevant operation of the Dental Council (Elected Regulations), 1962 were amended.

> The Council took up the recognition of Indian dental qualifications by the General Dental Council of the United Kingdom. The Council also prepared the detailed requirements of equipment, appliances and materials needed for opening of the proposed new dental colleges and for district hospitals during the Second Plan, together with the operative statement on prices quoted for them by the various firms (both foreign and Indian).

Two Special Committees were appointed by the Council (1) for investigating the scope and possibilities of starting the manufacture and supply of standardised dental materials in the country, and (2) for revising the curricula etc. of the B.D.S. Course as laid down by the Council.

Due encouragement is not given to research in dentistry in the country. But mention may be made of the scholarships being awarded, since 1952, by the M/s. Hindustan Lever Ltd., the manufacturers of the famous "Gibbs S. R. Tooth Paste" on behalf of M/s. D. W. Gibbs. The research is being supervised by a Committee known as "Gibbs Dental Research Committee" of the All India Dental Association. Since the inception 20 papers on different aspects of periodentology was produced. The Forsyth Dental Infirmary of Boston and the Murrey and Leonic Guggenheim Dental Clinic of New York continued their support to the All India Dental Association by granting four internships for the academic year 1957-58.

State Activities

State Councils also continued to function during the year in the States of Assam, Bihar, Bombay, Delhi, Madhya Pradesh, Punjab, Uttar Pradesh and West Bengal.

Apart from these activities of the Central Government and the Dental Council of India in the field of dentistry, the activities of the State Governments and the State Dental Councils are very important in as much as they supplement the activities of the former. These are briefly summarised below: —

Andhra Pradesh—There was no dental college in the State nor dental Council. The Government of Andhra Pradesh sanctioned the establishment of 4 dental clinics at the district headquarters hospitals of Nizamabad, Karimnagar, Warangal and Mahboobnagar with necessary staff and equipment.

Assam—The Assam Dental Council constituted under the Indian Dentist Act, 1948 continued to function during the year.

Bombay—The State Dental Council was constituted on October 23, 1956 with twelve members.

Prosthetic dentistry clinic, which was at the St. George's Hospital, Bombay, continued to cater to the needs of the hospital patients requiring artificial teeth. The clinic proved very beneficial to the poor and middle class people.

Delhi—The Delhi Dental Council (Delhi and Ajmer) worked satisfactorily under Section 33 of the Dentist Act, 1948 as modified up to 1st July, 1956. The Council was composed of 11 members, three of which were nominated by the Delhi Administration and one by the earlier Ajmer Government.

A board of honorary inspectors was appointed by the Dental Council to check up unqualified dentists practising in Delhi and Ajmer.

Kerala—During 1957 a State Dental Tribunal was formed. The total number of dental practitioners registered in Part 'A' of register of the State was only 13.

Madras—The Madras State Dental Council continued to function during 1957, and the powers of the Council were extended to the areas of Andhra and Coorg States by means of an agreement entered into by the Government of Madras and the Governments of the respective States. There were 319 registered dentists of which 33 were in Part 'A' of the register and the balance in Part 'B'.

It may be mentioned that B.D.S. Degree of the University of Madras was recognised by the Dental Council of India and was added to the list of registrable dental qualifications appended to the Dentists Act, 1948. There was no change in the composition of the Council during the year, under review, nor any amendments in the existing Act.

Madhya Pradesh—Registration of the dental practitioners of the erstwhile State of Bhopal was carried out by the Madhya Pradesh State Dental Council. No amendments were made in the Dentists Act, 1948 nor was there any change in the composition of the Dental Council.

Punjab—There were two dental colleges in the Punjab State with a full time staff of 13. The total number of seats available were in all 26. The total number of students on rolls were 76 during the year. No amendments were made with regard to the composition of the State Dental Council.

Rajasthan—In Rajasthan the Dental Registration Act, 1948 was not in force.

Uttar Pradesh—There was one dental college with 20 seats and with 14 (full-time and part-time) staff. There were, in all, 95 students on the rolls of the college during the year. During 1957-58 sanction was also given for the expansion of the Dental College, at Lucknow. B.D.S. of the Madras University was declared as a recognised dental qualification by the State Government.

West Bengal—The State Dental Council made proposals to the Government of West Bengal for the amendment of the Dentists Act, 1948 and for the enactment of a new legislation during 1957. There was one dental college with a total capacity of 30 seats and a total strength of 27 (part-time and full-time) teaching staff. The total number of students on the rolls during the year was 112.

Himachal Pradesh—In Himachal Pradesh, there was no dental Council for registration.

Tripura—A joint committee was formed with the West Bengal Dental Council for registration of the dentists of the territory.

CHAPTER X

DRUGS AND MEDICAL STORES

The Organisation has the overall responsibility for controlling the quality of the imported drugs including new drugs. The Drugs Controller (India) in the Directorate General of Health Services is the controlling officer and the Drugs Licensing authority under the Drugs Act. The Organisation can be broadly divided into:—

1. Headquarters;
2. Organisation at the Ports;
3. Central Drugs Laboratory, Calcutta.

The staff at the Headquarters consists of a Deputy Drugs Controller and an Assistant Drugs Controller and the Assistant Secretary to the Indian Pharmacopoea. The organisation at ports consists of Assistant Drugs Controller at the ports of Bombay, Calcutta, Madras and Cochin to enforce the provisions of the Drugs Act and the rules thereunder, in so far as the imported drugs are concerned.

The Drugs Act and the Drugs Rules were operative throughout the country except the State of Rajasthan. It may also be mentioned in this connection that the State Administrative Medical Officer of Rajasthan finalised the requisite arrangements for setting up the administrative machinery for enforcement of the provisions of the Act and requested that State Government to issue the necessary notification under Section 18 of the Act.

Control over Imported Drugs:

Drugs and medicines continued to be imported through the ports of Bombay, Calcutta, Madras and Cochin. There was no change in the points of entry of drugs into the country by sea during the year under report. The Officer-in-Charge of these ports continued to exercise due vigilance to ensure the quality of the imported drugs and to enforce the provisions of drugs rules in regard to labelling and to examine the coverage of the import licence by suitable valid import licenses.

The value of drugs imported during the year 1957-58 was estimated to the tune of 179.34 million rupees as against Rs. 175.18 during 1956-57. A great majority of the drugs continued to be imported in bulk on account of the restrictions placed on the import of finished preparations under the import trade control regulations of the Ministry of Commerce and Industry. The increase in the value of the Drugs imported during the year under report could be explained by the fact that the licences issued during the previous licensing period might have materialised during the period under report and also by the fact that all the demands of the country in respect of raw materials were on the increase.

In all 15,874 samples were drawn for examination from the imported consignments. 1,262 samples from these were sent for test to determine their quality and of these 1,077 were reported to be of standard quality. At the port of Bombay, 144 samples were reported as not of standard quality and of these 126 were ordered to be re-exported while the remaining

18 were ordered to be destroyed. At the port of Calcutta out of 28 cases, 22 cases were ordered to be re-exported and the remaining 6 to be destroyed. Similarly, at Madras, 13 cases were not of standard quality and 10 were ordered to be re-exported. In one case the importers were permitted to repack the drugs in glass containers to conform to B.P.C.

The analysis regarding the number of samples found to be not of standard quality category-wise revealed that vitamin preparations and biological products which are comparatively unstable, accounted for most of the sub-standard products. The number of samples in the categories of vitamins and biological drugs were 129 and 17 of the number of 185 for all categories.

In addition to examining the standard of quality of the imported drugs, running check on the quality of biological preparations likely to deteriorate on storage was maintained by taking samples from the imported storage godowns under Rule 26 of the Drugs Rules. Samples thus taken at frequent intervals were sent for test to ascertain their potency during storage. 311 such samples were sent for test. Of the above samples only 26 were reported not of standard quality, where-upon the importers were either requested to recall all those issued made from samples or they were previously prevailed upon to destroy or to re-export to the country of origin. In exceptional cases where there was scope for the deteriorated stocks to be re-conditioned facilities were provided for re-processing.

Table No. 49 reveals the statistics of import of essential drugs during 1957. It can be seen therefrom that the imports of Penicillin showed a marked reduction which could be attributed to the restrictive import policy in respect of the anti-biotics consequent upon their indigenous production. The imports of phenoxymethyl Penicillin which was not manufactured in the country registered an increase. The imports of Streptomycin, Chloramphenicol, and Chlortetracycline were on the increase. The import of Isoniazid went down to a great extent in comparison with the last years' figures. Similarly, Sulpha Drugs registered a downward trend owing to indigenous production. Newer sulpha drugs like Sulphamythroxy Pyridazine were imported for the first time. The import of oral antidiabetic drugs such as carbutamide and Tolbutamide did not affect the import of insulin.

The long standing pattern of the import of Drugs underwent a rapid change because of the import policy under the Import Trade Control and Regulations. Emphasis was laid on bulk import of drugs and chemicals and this was a pointer to the development of the Drug Processing Industry.

Contravention of Drugs Act and Drug Rules:

The details of the cases of contravention of the Drugs Act and the Drugs Rules are detailed below:—

Bombay—The contravention showed downward trend. There were 28 cases recommended for penalty and 195 consignments were released on the production of the letters of guarantee for correction of labelling defects, on the imported premises and 220 consignments were released after due corrections in the docks themselves.

Calcutta—There were, in all, 174 cases, the majority relating to consignments of defective labels. Penalties were imposed in 5 cases and in 28 cases the consignments were recommended to be re-exported or confiscated.

Madras—There were in all 13 cases of contraventions of which 10 were of improper labelling. These were released after necessary rectification. Penalty was imposed only in one case where the drugs were imported without a valid import license.

Cochin—There were only 10 cases, all due to labelling defects.

It was gratifying to note that increasing consciousness amongst the importers of the requirements of the Act and that in most cases labelling contraventions were not wilful or deliberate. The trade was, on the whole, quite cooperative in the enforcement of the Act.

Under Rule 25(a) of the Drug Rules, the Assistant Drugs Controllers at the Ports inspected the premises of the importers before granting import license under the Act. They ensured that adequate storage facilities and accommodation for drugs desired to be imported were available. The following table gives the number of firms visited during 1957:—

	No. of Firms visited
Assistant Drugs Controller, India, Bombay	12
Assistant Drugs Controller (India), Calcutta	10
Assistant Drugs Controller (India), Madras	2

The following table gives information regarding the number of import licences issued during the year 1957:—

Year	No. of import licences issued of form 10			No. of import licences issued of	
	Fresh	Renewal	Endorsement	Form 11	Form 12B
1957	324	133	177	502	84

Import of New Drugs:

In regard to the import of new drugs 75 applications were received under Rule 30-A of the Drugs Rules and the drugs covered by these applications presented a wide range of field in Chemotherapy. The large number of anti-T.B. drugs in this list would indicate that considerable research still continue to be conducted in the Chemotherapy of the disease. After satisfying itself about the efficacy and harmlessness of the drugs the organisation permitted 23 drugs to be imported under the rule mentioned above. The list of the drugs is given in the Table No. 50. Among the drugs permitted to be imported special mention may be made of Doriden Leukeran, Polio Vaccine and Triamcinolone.

Broadly speaking, the import policy being revised by the Ministry of Commerce and Industry every six months in consultation with the Ministry of Health, kept in view the demands for drugs, their essentiality and indigenous production capacity. The position in regard to supply of drugs was generally satisfactory. The Drugs Controller (India) was constantly watching the demand and supply position of the drugs and whenever necessary the Chief Controller of Imports and Exports was requested to provide for adequate imports.

Drugs Technical Advisory Board:

The Drugs Technical Advisory Board, a statutory body constituted under the Drugs Act, 1940 held a meeting during the year under review and examined certain proposals for the amendment of the drugs rules. The following are the recommendations of the Committee for the amendment to:—

1. Rules 51 and 52 regarding powers of Inspectors to detect and seize records, registers and other documents to establish contravention.
2. Rule 124 so as to recognise only the current edition of the pharmacopoeias.
3. Schedule K so as to grant exemption to sale of insecticides.
4. To rules and licence forms regarding repacking of drugs.

The Board also approved the finalised standards for injection of Liver Extract Crude for inclusion in Schedule E of the Drugs rules and forwarded to the Government for publication in the Gazette. The Board also appointed two ad-hoc sub-Committees to examine:—

1. Comments so far received and the draft schedule E (Poisons List), G, H. L of the Drugs Rules and the State Poisons List.
2. To revise schedule F of the Drugs Rules containing standards for biological products so as to bring it in line with the latest editions of the recognised pharmacopoeias.

During the year under review a consolidated list of amendments to the Drugs Rules was published in the Gazette of India and the salient features of these amendments were:—

1. The Drugs Rules, 1945 were made applicable to the whole of India except the State of Jammu & Kashmir.
2. Rules and forms regarding registration of patent and proprietary medicines were deleted.
3. The licence fees regarding import, manufacture and sale of drugs were revised on the basis of recommendations made by the Pharmaceutical Enquiry Committee.
4. The minimum requirements relating to space equipment, hygienic conditions, staff etc. to be complied with by the manufacturers were laid down.
5. The minimum requirements relating to space, equipment, books etc. to be complied with by Pharmacists were laid down.
6. Provision was made for the grant of loan licences in the Drugs Rules whereby parties who do not have their own manufacturing facilities available with other manufacturers.
7. New rules were laid down in the Drugs Rules laying down the standards for chemical contraceptives and insecticides to be complied with by manufacturers.
8. A new rule was laid down giving the list of admissible colours permitted to be used in pharmacopoeial preparations.

Drugs and Magic Remedies (Objectionable Advertisements) Act:

The Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 came into force on the 1st April, 1955 and has been administered in the Central and the State Governments. The Drugs Controller (India) has been vested with powers to sanction the publication of advertisements under the Section 14(1)(d) of the Act and the State Governments appointed their Drugs Standard Control authorities as officers for this purpose.

The import and export of objectionable advertisements was as usual controlled by the Drugs Standard Control Officers in close liaison with the Customs and Postal authorities. A statement of the number of cases referred to the Drugs Controller (India) by the postal department and the Indian Embassies abroad during 1957-58 for advice was as under:—

Foreign Post	33
Indian Embassies etc. abroad ...	1

Similarly, the total number of cases in respect of exports and imports on which advice was given by the Assistant Drugs Controllers at the Ports during 1957-58 is given below:—

Name of Port	Import	Export
Bombay	19	746
Calcutta	20	27
Madras	—	62
New Delhi	(....33....)	
Cochin	..	..

It may also be mentioned that in view of the importance of the Family Planning Programme and the National Health Programmes advertisements of approved contraceptives were permitted subject to certain conditions and approval of the same by the Government.

Spirituous Preparations (Inter-State Trade and Commerce) Control Act, 1955:

This Act was enacted by the Ministry of Commerce and Industry to regulate the movement of Spirituous preparations in the prohibition States. The State of Bombay, Madras and Uttar Pradesh framed rules under this particular Act. Section 13 of the Act provides for grant of exemption from the provision of the Act to those Spirituous preparations which are notified under this section in the Gazette of India. All these applications would be examined in relation to certain factors such as the percentage position of the alcohol in the preparation of its formula or feasibility of utilising it as substitute for alcohol. A notification in the Gazette of India was published on 13th August, 1957 granting exemption to such preparations under the section mentioned above.

Medicinal and Toilet Preparations (Excise Duties) Act, 1955:

This Act was enacted by the Ministry of Finance in the Government of India providing for levy and collection of duties of excise on medicinal and toilet preparations containing alcohol, opium, Indian hemp or other narcotics at a uniform rate throughout India. A Standing Committee consisting of the Chief Chemists of the Central Revenues and the Drugs Controller, (India) was constituted under Rule 68 of the Act to advise on matters pertaining to the technical aspects of the administration of the Act and its rules. During the year under review the Ministry of Finance referred 35 samples of medicinal preparations to the Standing Committee for examination and the Committee communicated its recommendations to the Government of India for further action. Reference for advice on matters relating to this Act were also referred to the Drugs Standard Control Administration.

Indian Pharmacopoeia Committee:

The Indian Pharmacopoeia Committee continued its work of bringing up-to-date the Indian Pharmacopoeia published in 1955. An addendum containing 50 drugs and their preparations was recommended. The Drugs included comprised newer antibiotics, anti-histamonics and anti-infective agents which had come into use since the publication of the pharmacopoeia of 1955. Draft monographs on these drugs were prepared and circulated for comments to the members of the Committee and its sub-Committee. It was expected that it would be published during 1958.

National Formulary Committee:

The Committee, appointed in 1956 by the Government of India to prepare a National Formulary containing a list of useful drugs and their formulations, circulated a questionnaire to the medical institutions and leading pharmaceutical manufacturers. On the basis of the replies received to this questionnaire the National Formulary Committee at its second meeting held in July, 1957 drew up a tentative list of drugs and the formulations for inclusion in the formulary. The formulary, when finalised, would contain about 500 preparations and would prove a guide to both the members of the medical and pharmaceutical profession.

Analysts Conference:

The problems relating to the test of drugs with a view to evolving uniform methods in the analysis of drugs was discussed by the analysts at their second Analysts Conference held at the Haffkine Institute, Bombay, in April, 1957 under the Presidentship of Drugs Controller (India). The Conference was attended by 75 invitees comprising of the State Government Analysts, Director and other officers of the Central Drugs Laboratory, University Professors and teachers as well as representatives from leading pharmaceutical manufacturers in the country. 22 resolutions were passed recommending various lines of action for analysis and the major recommendations were as below:—

1. With a view to improving the standards of drugs made from crude drugs particularly those which cannot be evaluated by chemical means, it was necessary to establish a Pharmacognosy Section in every State Drugs Cantrol Laboratory. The Industries concerned should also have a Pharmacognosy Section in their analytical laboratories.
2. Collaborative studies on crude drugs should be undertaken in laboratories that have facilities for carrying out such work. Arrangement should be made by the Central Government to provide authentic specimens of crude drugs to all collaborators.
3. The Drugs Technical Advisory Board should examine the question of upper and lower limits for vitamins and multivitamins preparations, especially of the proprietary type and the need, if any, for fixing the upper limits.
4. The State laboratories should take up the question of standardisation of rabies vaccine and provide a standard strain of virus for challenge and also provide a standard vaccine for comparison.
5. The Central Research Institute, Kasauli. Haffkine Institute, Bombay; King's Institute, Guindy and the Bengal Immunity Research Institute, Calcutta, be requested to carry out collaborative work to devise methods for testing the potencies of prophylactic vaccines, including cholera and T.A.B.

Collaborative studies on the stability of single vitamin preparations was envisaged to be conducted in 8 laboratories. Investigations on pharmacognosy of 10 crude drugs included in the Indian Pharmacopoeia were under investigation and it was expected that the results of the investigation would be useful for subsequent revision of Indian Pharmacopoeia.

Pharmacy Council of India:

A number of amendments to the Pharmacy Act by the Pharmacy Council of India were suggested and the amendments were under the consideration of the Government of India.

The Diploma in Pharmacy of the Glancy Medical College, Amritsar and the Diploma in Pharmacy and Bachelor of Pharmacy of the Madras Medical College. Madras were approved by the Council for a period of two years from 1957.

The B. Pharmacy and B.Sc. granted by the Philippine authorities were approved by the Council under Section 14 of the Pharmacy Act. Having noted the changing pattern in the educational system consequent on the introduction of the Higher Secondary and the Pre-university courses of study, the Council recommended certain concessions to those students who pass these examinations and apply for admission to the Diploma in Pharmacy course. The Council decided to permit the Government of West Bengal to admit non-Science students to the Diploma in Pharmacy at Burdwan and Jalpaiguri.

The activities of the State Governments in respect of the administration of the Drugs Act are highlighted below:—

As already mentioned in the chapter above, provision of the Drugs Act in the rules made thereunder were enforced in all the States, except in Rajasthan. Except in the State of Bombay and Kerala where the implementation of the Act was administered by whole time State Drugs Controllers, in all other States, the Directors of Medical and Health Services were appointed as State Drugs Controllers and Drugs Licencing authorities in addition to their own duties. The Drugs Controller for the State of Bombay was assisted by four Assistant Drugs Controllers under him while in the State of Uttar Pradesh. Andhra Pradesh and Madras, the controlling authority had one Assistant each to assist them. In the State of West Bengal, the Drugs Controlling authority was assisted by a Drug Licencing Officer.

The work of analysis involved in the administration of the Act was done in their own analytical laboratories in the States of Bombay, Madras, Punjab, Uttar Pradesh and West Bengal. The other States of Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Orissa, Delhi, Himachal Pradesh, Tripura and Manipur made arrangements for the test of drugs in laboratories of other States such as Haffkine Institute, Bombay, King's Institute Guindy, Madras. Some States made arrangements for the test of the drugs at the Central Drugs Laboratory, Calcutta.

The detailed information in regard to the prosecutions launched by the States under the Drugs Act were not available. However, it may be mentioned that in the country as a whole there were 354 prosecutions instituted under the Act and 163 convictions were held. The majority of these prosecutions were conducted by the Government of Uttar Pradesh, Bombay and Madras. The States of West Bengal and Andhra Pradesh did not report any prosecutions. The prosecutions in Kerala were only 17 out of which 11 were convicted and it was presumed that the offences in Kerala mostly pertained to the sale and manufacture without valid licences.

The total number of manufacturing and sale licences granted under the Drugs Act in the country was about 539 and 24,973 respectively. The Officers-in-Charge of the Drugs Standard Control in the States would also enforce the provisions of the Drugs and Magic Remedies (Objectionable Advertisements) Act. It should be mentioned, however, that on account of the paucity of staff not much headway could be made in regard to its enforcement.

A brief report on the activities of the States in the enforcement of the Act is given below: —

Assam—No prosecutions were launched during the year under review. The Drugs Controller (Assam) was appointed to take action under Section 14(1)(d) and for the purpose of Section 8 of the Act the Inspectors of Drugs were appointed.

Bihar—The Director of Health Services who was also the State Drugs Controller and Licencing Authority was authorised to receive applications for sanction to publish and print advertisements under the Act.

Bombay—Press cuttings from the newspapers, periodicals and books etc. were examined or scrutinised by the Drugs Controller with the help of Drugs Inspectors. About 30,000 advertisements were scrutinised and the advertisers, whose advertisements were found to be contravening under the provisions of the Act, were served with the show-cause notice and warning. Five prosecutions were conducted during the year.

Madhya Pradesh—Different agencies, namely Civil Surgeons, Collectors, Police Officers not below the rank of Sub-Inspectors or Ayurvedic Inspectors were authorised to take action under Section 8 of the Act.

Madras—No prosecutions were launched and the Drugs Controller of the State received several applications for grant of permission to advertise under the relevant section of the Act.

Mysore—The persons who were found to contravene in the provisions of the Act were given warning and notices without taking any legal action. The Director of Public Health was notified as Officer to whom the applications should be made under Section 14 of the Act. The question of appointment of persons under Section 8 was still under the active consideration of the Government.

Orissa—The Act was enforced in the State on 15th of May, 1957. No separate machinery was set up for its administration. The Director of Health Services and the Drugs Inspectors were, however, authorised to take action under Section 8 of the Act. No case of violations of the provisions under the Act was found.

Punjab—The powers of Section 8 of the Act were delegated in the following officers of Health Department of the State (1) State Drugs Controller, Punjab for the whole State, (2) Divisional Inspectors of Drugs within their respective divisions, (3) All Civil Surgeons and D.M.Os. within their respective jurisdictions, (4) The Chief Medical Officer, Chandigarh. Four prosecutions were instituted in the year under review.

Rajasthan—The Director of Medical and Health Services and the Drugs Inspectors were authorised to exercise power under Section 8 of the Act and a notification to that effect was proposed to be issued.

Uttar Pradesh—Twelve prosecutions were made under the Act and warning was given in four cases and in six cases fines were imposed.

Delhi—The Director and Deputy Director of Health Services and all the five Drugs Inspectors in the territory were empowered under Section 8 of the Act and for the purpose of Section 14(1)(d) the Director of Health Services was empowered.

54 cases were filed in the courts to take action during 1957 and in 47 cases convictions were made.

Himachal Pradesh—The Director of Health Services and 5 other medical officers were appointed as officers for the purpose of Section 8 and the Director of Health Services for the purpose of Section 14(1)(d) of the Act. No prosecution was launched in the territory.

Tripura—Police Officers not below the rank of Sub-Inspectors were authorised to perform the functions under Section 8 of the Act and under Section 14(1)(d) the Director of Health Services was empowered to deal with applications for printing or publishing of advertisements. No prosecution was launched.

Medical Stores—The Medical Store Depots at Madras, Bombay, Calcutta and Karnal continued to function during the year 1957 satisfactorily. The number of indentors on role at the end of December, 1957 was 9,573. The table below gives the information on the annual indents received and complied with by the Medical Store Depots during the year:—

	Indents received	Indents complied
Madras	2,005	1,699
Bombay	2,011	2,011
Calcutta	1,280	1,280
Karnal	1,231	1,231
Total	6,527	6,221

Besides, the supplementary indents received and complied with during the year was as many as 6,718 at all the depots put together.

The value of the international stores received and issued at the three depots of Madras, Bombay and Calcutta amounted to Rs. 79.18 and Rs. 69.45 lakhs approximately.

CHAPTER XI

MEDICO-LEGAL WORK AND THE SEROLOGIST DEPARTMENT

This department functioned during the year with the permanent staff of a Serologist, four Assistants to the Serologist, two Chemists, five laboratory assistants besides administrative staff. The staff of the Antigen Production Unit consisted of one Biochemist, one Assistant Serologist, one Assistant Chemist, seven laboratory technicians and attendants and other supplementary staff.

During the year under review the work in the Department maintained the tempo of increase in the number of medico-legal cases for investigation. The number of requests for the determination of blood groups in blood and semen stains increased considerably resulting in increase of the technical as well as in the clerical work of the department. The detailed statistics of the medico-legal investigations conducted by the Serologist of the Government of India are given in Table No. 51.

It may be noticed from the table that blood and semen group cases increased by 27% (4,298 cases and 21,329 exhibits in 1957 as against 2,820 cases and 16,789 exhibits in 1956) and exhibits by 52.4%. Demands for information other than the origin of blood in stains were also received in a number of cases.

The Department continued to work for the Union of Burma during the year and 150 cases were examined as against 116 during 1956.

Besides medico-legal analysis, the department carried out clinical tests for the medical institutions under the Government of West Bengal. During the year serological tests for syphilis were done on 16,029 serum samples including 7,972 wasserman tests and 7,787 VDRL slide tests and 270 Kahn tests.

The medico-legal analysis of blood and other stains on exhibits seized in connection with the prosecution of criminal cases for the detection of the origin of blood etc., in these stains were only a continuation of the examinations to which these were subjected in the first instance by the chemical examiners in the States. Portions of exhibits found to be blood-stained were forwarded by them to the Department for confirmation and detection of the origin and grouping. The work done by the States Chemical Examiners and the Serologists are appended in Table No. 51.

The Central Medico-Legal Advisory Committee established in 1955 to advise the Centre and the States on matters pertaining to medico-legal procedures and practices in India, met for the second time in March, 1957 and recommended the following:—

1. The establishment of forensic science laboratories in all the States, either by conversion of the existing medico-legal laboratories or by setting up new laboratories as the case may be.
2. The States forensic science laboratories should be provided with suitable accommodation, modern equipment and qualified personnel.

3. An organised course of training in forensic medicine should form part of the medical curriculum to be studied by the students.
4. Improvements in the process of initial handling of blood stained objects and avoidance of delay in the submission to the Serologist for blood group test is very necessary and should be done.

Antigen Production Unit:

The Antigen Production Unit established for the manufacture of Cardiolipin Antigen for sero-diagnosis of syphilis continued to be under the direction of the Serologist. The Unit continued regular production of V.D.R.L. Antigen during the year under review. 11,000 ampoules of antigen were produced. The serological tests on representative samples of imported Antigens held by several Medical Store Depots in India were continued to be done so as to assess the suitability of these Antigens for issue.

CHAPTER XII

PORT AND AIRPORT HEALTH ADMINISTRATION

The existing health organisations at the major sea-ports of Bombay, Calcutta, Madras, Cochin and Visakhapatnam and at the international air-ports of Bombay, Calcutta, Madras, Tiruchirappalli and Delhi (Palam) continued to function smoothly during the year. New health organisation was set up at the Kandla sea-port with effect from 1-2-1957 and was developed to cater to the needs of international traffic touching at the port.

The work at these organisations was regulated in accordance with the Indian Port Health Rules, 1955 and Indian Aircraft (PH) Rules, 1954, drawn in corformity with the International Sanitary Regulations. Vigilant work was carried out by the organisations to prevent importation and exportation of communicable diseases by sea and air. Notable care was taken of the traffic arriving from Yellow Fever areas and unprotected passengers and crew coming from those areas were isolated within nine days of arrival and quarantined in the Yellow Fever Hospitals till their incubation period was over. Anti-Yellow Fever measures were also undertaken against the importation of monkeys arriving without requisite certificate from the Yellow Fever areas and all such monkeys were killed by the local port health staff.

It may also be mentioned that on the out-break of Influenza epidemic in the eastern countries in May, 1957 the health staff employed at the major sea and air-ports were alerted and extensive necessary measures were taken for checking entry of imported cases of Influenza from the east for isolation and treatment. All active cases were either isolated or removed to the local hospitals for treatment. The disease was declared as infectious disease with incubation period of five days under I.P.H. and Indian Aircraft (PH) Rules.

The statistical abstract showing different aspects of the work done by these organisations are given at Table Nos. 52 to 54. It can be seen therefrom that only a few cases of infections, but no quarantinable diseases were found on board the vessels and aircrafts arriving from foreign countries during the year under review.

The general sanitation at all the ports and airports were quite satisfactory, on account of anti-mosquito, anti-rodent and other sanitary measures taken throughout the year The provisions carried for Indian seamen on board the ships and the catering arrangements on unberthed passenger ships were also inspected by the health staff and corrective measures were suggested for any defects detected.

Arrangements for pre-entry and pre-medical examination of seamen introduced into India in 1950 worked satisfactorily during the year 1957. The concession allowed for over-aged seamen under rule 14-A of I. M. S. (ME) Rules, 1951 was further extended for one year from 1st September, 1957. The Government of India also sanctioned free laboratory and other tests necessary in respect of the seamen, irrespective of whether they were declared temporarily unfit or not by the Government doctors being carried out at Government expenses.

The total number of examination of seamen conducted (12,965) at different centres (Vide Table No. 54) in the year 1957 decreased in comparison with those of 1956 (21,823) on account of the extension of the validity period of the medical certificate to 5 years. The drop was marked for the centres of Calcutta and Bombay. The number of seamen who received indoor and out-door treatment at seamen's clinics at the major seaports of Bombay and Calcutta can be seen in the annexed Table No. 54. Arrangements were also completed during the year to provide specialised treatment to seamen at these clinics.

CHAPTER XIII

MEDICAL RESEARCH

MALARIA INSTITUTE OF INDIA, DELHI

Malaria Institute of India is one of the oldest training and research centres in the world in Malaria and its allied subjects. It was founded in 1909 as the Central Malaria Bureau which expanded to form Malaria Survey of India in 1927. The organisation was redesignated as the Malaria Institute of India in 1938. The Southern India Branch at Coonoor has been in existence since 1942. A Filaria Training and Field Centre was started in 1955 at Ernakulam.

The Institute functions as an International Centre of malaria training. During the year 1957 regular training classes in malariology and filariology were held in the Institute. 28 Medical officers, 92 Malaria Inspectors, 22 Entomologists and 14 Engineers received theoretical, practical and field training in the institute in malariology and 23 Medical officers and 34 Inspectors got training in Filariology during 1956-57. Most of them were from different States of the country. In addition 29 students taking the M.E.P.H. course at the All India Institute of Hygiene and Public Health attended the Institute for a short training course.

For medical officers course, two came from Thailand and one from Afghanistan and for Entomologist course there was one from Afghanistan and one from Burma. Courses in malariology for 21 Controlleurs from Indonesia were also conducted during the year 1956-57. They were sponsored by U.S. T.C.M./I.C.A., through Ministry of Health. A comprehensive training was given to them for a period of 4 months. Special lectures and demonstrations were also laid out for I.A.S. and I.F.S. probationers and various aspects of Malaria and Filaria problem and their control were explained to them.

During the year under review the various research work were conducted in the Malaria Institute of India, Delhi.

Both Laboratory and field studies in respect of Avian, Rodent, Simian and human malarias continued.

Epidemiology:

Determination of the source of mosquito blood meals continued to be the routine practice in the Laboratory and 379 fowls were immunised for the production of human, bovine, goat and pig anti-sera.

11,349 mosquito blood meals were tested, against the five anti-sera produced in the laboratory and the detailed results were sent to the authorities concerned. Out of these 6,924 were from W.H.O. and the rest from the different States of the country.

Biochemistry:

Trials with adrenaline injections affected the blood sugar level in the terminal stages of *P. knowlesi* (Nuri Strain) infection in monkey. It showed that blood sugar level was very low in the terminal stages of *P. knowlesi* infection and injection of adrenaline at this stage retarded the lowering of Blood sugar level to a marked extent.

Pathology:

Studies on pathogenesis of centrilobular recrosis of liver in terminal stages of *P. knowlesi* (Nuri) infection indicated that the changes were due to the action of higher centres in hypothalamus through sympathetic nervous system and not due to local anoxaemia as was indicated by other workers.

Chemotherapy:

Both laboratory and field studies of Chemotherapy continued. 41 human malaria cases were treated with various antimalarial drugs. Out of these 22 cases (13 *P. vivax* and 9 *P. falciparum*) were given the synthetic antimalarial 377-C-54 with encouraging results. 95.45 per cent of the cases were afebrile and free from malaria parasites in their blood within 72 hours.

Investigations were also carried out under C.S.I.R. enquiry on the "Screening of Antimalarial Drugs".

Insecticides:

In the Coonoor Branch Laboratory, investigations in respect of insecticides were carried out regularly.

The resistant strain of *C. fatigans* and *A. stephensi* selected by exposing the adults to DDT at each successive generation progressed through 16 generations. The larvae of the resistant strain were more resistant to DDT. No significant resistance developed in *A. fluviatilis.*

Studies on the comparative efficacy against anopheline mosquito of D.D.T. (100 mg/sq ft.), diazinon (25 mg/sq ft.) and malathion (25 mg/sq ft.) carried out in Udaipur District during July 1957, showed that the mosquito density started building up in sixth week in diazinon and malathion sprayed village and in twelfth week in D.D.T. sprayed village.

When an insecticide suspension is sprayed on an active dry surface, a large portion of fine insecticide particles might be sucked into the mud surface where they are not available to the insect for exerting their insecticidal action. Physio-chemical studies on the amount of material actually sorped into the mud surfaces of rural houses around Delhi were conducted by the institute in the case of 75% D.D.T., 50% dieldrin and 50% dieldrin-resin water dispensible powders during the year under review.

It was observed that 90% of the insecticide particle in every case were below 20 microns and 75 to 80 per cent below 10 microns in size. The fineness of insecticide particle causes their rapid and extensive absorption into the inner layer of mud surface. Incorporation of resin to the dieldrin formulation did not seem to prevent its absorption though it was reported earlier to be so.

National Malaria Control Programme:

National Malaria Control Programme which was launched in April 1953 entered into 5th year of its active operational phase in 1957. Eleven additional malaria control units were allotted to the various States during 1957. 181 Units were functioning up to the end of December, 1957. During the year about 8,619 tons of D.D.T. 75%, 183 tons Dieldrin 50%, 9 tons Dieldrin 75% W.P. and 240 Trucks were imported from U.S.A. under U.S.T.C.M. agreements. The DDT factory established in Delhi was able to supply 659 tons of DDT 50% and 207 tons of DDT technical. The construction of D.D.T. factory at Alwaye and installation of D.D.T. plant were completed during the year.

An outstanding feature of the year is that an Advisory Evaluation Survey Team of U.S. T.C.M. visited India during January-April, 1957 to assess the results of National Malaria Control Programme.

Two very important factors came to light from the experience of large scale control programmes in malarious areas. The first is the spontaneous disappearance of malaria parasites in the human hosts in populations which had been effectively protected against new infections for a period of at least 3 years, thus making any further control operation superfluous. The second factor is the demonstration of the phenomenon of resistance which malaria carrying mosquitoes in some areas had developed against the insecticides in use. While the first factor demonstrated the possibilities of eradicating the disease, the second factor prompted an element of urgency and forced the issue for eliminating the disease when it was still possible.

The programme to change over from the present control programme to one of Malaria Eradication was drafted by the Director of Malaria Institute of India during the year, and was discussed with U.S. T.C.M. and other international agencies and later with the Planning Commission and the representative of State Governments and the Government of India. It was decided that National Malaria Control Programme would be switched over to Malaria Eradication with effect from 1st April, 1958.

U.S. T.C.M. and W.H.O. agreed to provide assistance of $10,411 towards the Malaria Eradication Programme for the year 1958-59.

National Filaria Control Programme:

Filariasis, an important mosquito-borne disease, has been known to be preventive in India for centuries past.

In the way of prevention of this disease until recently very little was undertaken for various reasons e.g. negligible mortality caused by the disease and non-availability of proper methods for the treatment or control. During the year, with the view of tackling filariasis, the Government of India in collaboration with U.S.T.C.M. provided the drug, insecticides, larvicides, transport and equipment free of cost to the States participating in National Filaria Control Programme, and the operational cost was to be borne by the participating State. Although it was planned to set up 20 new control units during the year 1956-57, only 13 were sanctioned because of short-fall in supplies received under T.C.M. aid, and for the same reason 38 units out of 46 units as it were planned actually started functioning at the end of 1957.

Control method consisted of:

(i) Anti-mosquito measures using adulticide and larvicide.

(ii) Mass therapy i.e. administration of diethylcarbamazine tablets.

Anti-larval measures in some places by oil and in some areas by B.H.C. had been in force in the urban areas of Patna (Bihar), Surat (Bombay), Mangalore (Mysore), Kumbakonam (Madras) and Trivandrum (Kerala) where National Filaria Control Programme Units are located. *Anti-mosquito measures* were in progress in States of Andhra, Bihar, Bombay, Kerala, Orissa, Uttar Pradesh, Andaman & Nicobar Islands and about 6.25 lakhs of houses were sprayed with dieldrin 50%.

Mass therapy with diethylcarbamazine tablets was in progress in the States of Andhra, Bombay, Kerala, Mysore, Orissa, Uttar Pradesh, Bihar and Andaman & Nicobar Islands. The therapy covered 11.85 lakhs of persons.

A combined filaria and malaria survey in the forest settlement of Kerala State, and filariasis survey in the tea gardens of Assam, in the old French Settlement of Pondicherry, and in Eryad Panchayat in Kerala were carried out during the year under review.

SCHOOL OF TROPICAL MEDICINE, CALCUTTA

The institution undertakes not only the research pertaining to tropical diseases, but also serves as a Post-graduate teaching institution and provides medical relief. 45 students passed the D.T.M. & H. and 10 students passed L.T.M. examination during the year. 10 graduates received special laboratory training in different departments of the school. A special one month course on leprosy under the auspices of the Indian Council of Medical Research was also held during the year and 34 students from different States in India attended. It was under consideration to establish a biophysics department in the school for work on radio-active isotopes during the year.

Studies on Tropical Eosinophilia:

From clinical study of 100 indoor patients, it was observed that while occupation or environment had no influence on the incidence, exposure to cold was a common precipitating factor. It was also observed that response to Diethylcarbamazine in pulmonary cases was striking. Pulmonary symptoms disappear within a week and eosinophil count showing a marked fall in 2-5 weeks.

Surveys, among 2,139 apparently normal people of all age groups in certain urban and rural areas of Assam and West Bengal showed that the overall incidence of eosinophilia was 12%, that massive eosinophilia (50—74%) can exist without any obvious symptoms and that there was no obvious association of high eosinophilia with filarial infection. Moreover, it was observed that exposure to vapour, dust etc. had no adverse effects on eosinophils, nor did it aggravate pulmonary symptoms in those with an eosinophil count above 2,000 per c.mm.

Tropical or Chronic obscure splonomegaly:

Follow-up study showed that cases of post-malarial hypersplenism resolve to a normal state if put under prolonged suppressive anti-malarial therapy. It was expected that on disappearance of Malaria and Kala-azar with the wide spread adoption of anti-malaria measures, cases of post-malaria hyperplenism as well as Kala-azar splonomegaly would disappear. About 25% of the cases in this series were due to a cosmopolitan group viz.—infective virus hepatitis (post-hepatitic splonomegaly) cirrhosis of Laennec type, extra-hepatic portal obstruction and so on.

Bacteriology and Pathology:

Allergy—Trials with anti-human serum floccule in the treatment were continued. Observation of electrophoretic pattern of serum of Allergic patients revealed that protein fraction reoriented themselves as the result of specific floccule treatment.

Cholera—Freeze drying of cholera culture showed better viability; the vibrios were active till 54 weeks.

Protozoology:

The technique was developed by which parasites in faecal smears could be stained very rapidly; fixing and staining were done simultaneously. It could also be employed for demonstrating fungi from cultures and skin scrapings, worms, ova etc.

Entomology:

A study of epidemiology indicated that filariasis rate was 6 to 10 per cent of certain population in Burdwan and about 2 per cent in other districts in West Bengal. The microfilaria rate was high in Burdwan (10%) Lowest in Howrah (2%). Culex fatigans was the only vector, and the mosquito infection rate ranged between 1 and 2 per cent. Observation indicated that microfilaria in the peripheral blood had two peaks of periodicity, at midnight and about 4 a.m., and were not to be found in the day between 7 A.M. and 5 P.M. Position of cattle microfilaria was engaging attention.

Chemistry:

The preparation of *progesterone,* a hormone from diosgenin achieved last year was simplified. Laevulic acid had been isolated as a bye-product from the waste liquor during the production of diosgenin.

Attempts were being made to synthesise new *insecticides.* A halogenated naphthalene homologue of D.D.T. was now under preparation.

The glycosides of certain plants were being studied. Aegelin, an alkaloid similar to ephedrine and isolated from the leaves of *Aegle marmelos* was under tests.

Under Government of West Bengal Scheme, work on *Medicinal Plant Cultivation* continued. Bismuth iodide complex of total alkaloids of Ipecae root was prepared. Steam distillation of Mentha Piperita and camphor-tulshi was carried out for isolation of volatile oil. Crystalline camphor was prepared for the latter plant.

Haematology:

Nutritional macrocytic anaemia—In 14 out of a series of 25 cases the serum vitamin B_{12} level was significantly lower than in normal Indians, but definitely increased after treatment with antimegaloblastic drugs. There was no depression of B_{12} binding capacity of serum.

Folic acid levels in serum and urine vary widely and provide no dependable guide to the existence of folic acid deficiency. After treatment the mean urinary folic acid excretion after subcutaneous and oral test rises.

Characterisation studies in a series of 15 cases of ***haemophilia*** *syndrome* showed the incidence of AHG, PTC and PTA deficiency as 10:4:1.

Dermatology:

Leucoderma—Investigation into the role of heredity in its aetiology was nearing completion during the year, 1957. To utilise the irritant action of croton oil on the skin, a therapeutic trial was made of its effect on skin affected by vitiligo, but the results were not impressive. Certain histochemical changes were observed in the vitiligenous patches.

A study of ringworm infection in 462 patients showed that the body, foot and the nails were affected in that order of frequency, but no affection of hair was seen. *T. rubrum* is by far the commonest species of dermatophyte encountered here. The application of M. R. stain demonstrated the various stages of development of nucleus in *T. rubrum.* In the treatment of ringworm infection anti-fungal ointment of Nystatin and Bradex-Vioform were not satisfactory and a new anti-fungal antibiotic, filipin, was on trial.

Cytology:

Leishmaniasis—With a view to determine whether inadequate treatment of Kala-azar leads to post-kala-azar dermal leishmaniasis (DL), a series of 200 cases of DL was studied. Specific treatment with urea stibamine group of drug or with sodium stibogluconate, that was adequate by all standards, did not prevent development of D.L.

The previous year's finding that a glia-like substance was present around *leprosy bacilli* was confirmed by electron and phase microscopic studies during the year 1957. Bacilli from cases under prolonged sulphone treatment showed a ragged cell membrane, loss of consistency and pattern of the cytoplasm, breaking up of mitochondria into smaller granules, and absence of glia matter.

Comparative results of early skin reactions obtained in 1015 persons tested with an antigen prepared from Kedrowsky's bacillin and Dharmendra's refined antigen indicated close similarity between the two.

Pharmacology:

Studies on fraction of Rauwolfia serpentina isolated by countercurrent distribution were continued. Fraction $B_{7,8}$ was found to have cholinergic (muscarinic) action, antagonised by atropine on isolated hearts and ileum, summated the action of acetylcholine while serpine and sarpagine had no such action. Fraction B_1 appeared identical with ajmaline by physicochemical studies and also in antagonising the action of histamine as well as acetylcholine.

Indigenous diuretics as Dolichos fiflorus increased the water excretion of water loaded rats, but arborine and Gymnema sylvestre had an opposite effect.

Preliminary studies on an anti-fertility agent *cirantin,* isolated from Citrus aurentium peel, indicated that the drug was fairly non-toxic and that it did not cause any change in the oostus cycle after 1.5 mg/kg daily for 8 weeks. Observation on its effect to prevent conception was being continued.

Helminthology:

The study of lymphatics in filarial lymphoedema was continued by (i) visual cutaneous lymphography by intracutaneous injection of vital dye, (ii) visual exploratory lymphography and (iii) radiological lymphography. These helped to demonstrate dilatation, tortuosity and incompetence in the various stages of lymphoedema. In some instances, the site of obstruction appeared to have been located.

Radiology:

Investigations of Intestinal *amaebiasis* and non-specific *colitis* after opaque enemas and opaque meal were continued.

In the former, moth-eaten appearance of a segment of the colon, filling defects and/or localised areas of radioluscence were noticed. Irregular or stenosed caecum was found in some chronic cases. In cases of non-specific colitis radiological signs of duodenal ulceration were noticed.

VALLABHABHAI PATEL CHEST INSTITUTE, DELHI

The institute continued to be managed and administered by the Governing Body constituted in 1955. The I.C.M.R. sanctioned new schemes for research work on (i) Pollination Calendar for Greater Delhi and (ii) Histoplasmosis Survey. The enquiry on Bagassosis sanctioned last year by I.C.M.R. was in progress and a comprehensive programme of work was being conducted both in the Institute and at Dalmianagar Paper Factory during the year under review.

Research on the "Effect of anti-tubercular drug on the synthesis of phthioic acid in Mycobacterium Tuberculosis" which was started in 1955 was completed in September 1957.

The Clinical Research Centre adjoining the Institute was formally opened by the President on 24th October 1957. The clinic was established with the object of promoting co-operative research on chest diseases like Tuberculosis, Asthma, Emphysema, Chronic Bronchitis, Pulmonary Eosinophilia, Degenerative Circulatory diseases etc.

The 11th Session of the D.T.D. (Diploma in Tuberculosis Diseases) course commenced with 13 students of various employments who were admitted, 10 passed during the year 1957.

A Laboratory Technicians' Course to train students in various Medical Laboratory Techniques started in July 1957.

Equipments were gifted by U.S. Government under T.C.M. to the Institute during the year.

Asthma Research Scheme:

Under the Asthma Research Scheme the work of Allergy Survey, Complete physical X-ray chest, Routine Laboratory test, Ventilatory Pulmonary function tests and 17-metosteorids examinations were carried out amongst 494 new cases during the year.

When Antigen became ready in this Institute by September 1957, skin test also started.

Pollination Calendar:

The work of preparation of Pollination Calendar was started in June 1957, under I.C.M.R. Research Scheme. During the last 6 months of 1957, the Institute identified about 12 types of Pollen grains and prepared extracts of 5 types.

A collection of reference slides of Pollens of wind Pollinated and other common plants was being built up. About 110 such reference slides were made. The work of building Harbarium was also being carried out.

Tropical Eosinophilia:

During the year 38 new cases were seen. Urine, Stool, Blood and Sputum examinations were done in each case. Tuberculin test was positive and Histoplasmin test was negative in every case. Total W.B.C. count ranged from 12,000 to 42,000 and Eosinophils ranged from 18% to 86%. Kahn test and cold agglutination test were negative in all cases.

Electrophoretic serum pattern showed nothing abnormal in all cases. Experimental work on Eosinophilia continued on guineapigs, rabbies, and egg embryos. Treatments with Hetrazan gave good response.

Chest Clinic:

Chest clinic started in June 1957 with the purpose of building up a central place in Delhi where non-tubercular chest cases could be referred to for registration and investigation.

Histoplasmin Survey:

Skin test survey was carried out at the four centres in and near Delhi. Total number of Histoplasmin tests performed were 566. Total number of persons who gave positive reaction was 38 (6.8%).

Thorough investigation of 30 patients were conducted with multiple—calcifications or positive Histoplasmin test for any evidence of Histoplasmosis, with Histoplasmin skin test, physical examination, complement fixation test for Histoplasmosis, culture for fungus of sputum, Bronchial aspiration and Bonemarrow asperation and blood tests etc. Two cases with positive Toxoplasmin test were also investigated.

CENTRAL RESEARCH INSTITUTE, KASAULI

Government of India established the Central Research Institute, Kasauli in 1905 to provide means of scientific study of diseases in India. The institute served as the Centre of research work on typhoid fever, dysentery and malaria and manufactured typhoid vaccines and also afforded courses. The institute has six sections viz.—Bacterial Vaccine, Virus, Biological Standardization, Serum concentration, Biochemistry and Antibiotics Sections.

During the year in addition to its usual functions of manufacture and supply of vaccines, and serving as Government of India's Central Drug Laboratory in respect of all biological products imported or manufactured in the country, research work, both basic and applied, on a variety of subjects of medical and public health importance were being carried out.

Bacterial Vaccine Section:

Concentrates of S. typhi were prepared with 0.5 per cent and 1 per cent carbolic and kept at room temperature and in cold storage 4°C to 6°C). Active mouse protection tests carried out at varying internals of storage, showed that while there was a rapid deterioration with 1% carbolic at room temperature, there was no such loss of potency of vaccine kept in cold room.

Virus Section:

Attempt to adopt street virus and fixed virus of rabies to non-nervous tissue and work on the prevention of experimental encaphalomyelitis by the administration of extract of arachis eggs were conducted. Work on possibility of removal of encephalogenic factor from the anti-rabic vaccine by Chemical means and the effect of quantity of anti-rabic vaccine and the duration of treatment on immunity were also carried out during the year 1957.

Biological Standardization Section carried out an I.C.M.R. enquiry under Gurkirpal Singh and (Miss) Devi P., on Immuno-chemistry of cholera vibrio.

Serum Concentration Section:

In order to improve the quality of products manufactured in the *serum concentration section,* some equipment was remodelled and re-designed, keeping in view the maximum efficiency and better supervision of the manufacturing process.

It was reported that a Chemical tetrahydro-amino-acriline when injected subcutaneously either alone or in combination with Poly-vinly-peprolidone had the effect of prolonging the survival time of mice injected subcutaneously with a lethal dose of cobra venom, but under the condition of the test of this research section this chemical did not alter the course of events in envenomated animals treated with it.

Biochemistry Section:

Research on cholera pathogenesis, critical examination of the membranepermeability enhancing (MPE) property of the cholera endotoxin was carried out.

Relationship between serum hexose and production of snake venom anti-bodies in horses and the preliminary work on the effect of streptomycine on ribo and desoxyribo-nucleic acids, the RNA and DNA content 3 subtypes of Vibro cholerae was observed in the antibiotic research section of the institute during the year.

PASTEUR INSTITUTE OF SOUTHERN INDIA, COONOOR

Pasteur Institute of Southern India, Coonoor, started functioning from April 1907 and celebrated Golden Jubilee of the institute during the year under review.

Government of India rendered a financial support to the institute for research programme of influenza. For enquiry on Rabies and the Respiratory and Intestinal virus as well as for the enquiry on Influenza, the Indian Council of Medical Research came forward and gave a substantial financial support to the Pasteur Institute, Coonoor, during the year under review.

The various activities of the institute during the year consisted of studies on Rabies, Influenza, Tissue, Culture methods, Respiratory and Intestinal Viruses, Cholera, Syphilis and Allergy to Fungus Spores in the Nilgiris.

An enquiry was in progress to determine whether the 5 per cent sample vaccine manufactured by the Institute for human treatment against rabies had any protection value under circumstances in which adequate untreated control groups had been observed and also an enquiry to determine whether there was any variation in the mortality rate as a result of treatment with 5 per cent sample vaccine instead of 1 per cent vaccine.

It was observed that 8.86% of persons bitten by proved infective animals develop the disease inspite of having complete course of treatment. If the number dying within 15 days, after completion of treatment, who really cannot be classified as treatment failures, were excluded, the mortality rate would be only 3.68%.

The death rate among a similar group of persons who refused treatment was 48.11%. If the persons who died during treatment are also classed among the untreated, the mortality rate among the untreated would be 54.17%. It is interesting to note that the mortality rate among the incompletely treated is 17.24%. If, on the other hand, we take into consideration all persons bitten by infective, proved and presumably rabid animals, the mortality rate in the treated group was found to be 0.43%. This figure was much lower than the mortality rate of 2.9% reported by Cornwall for a similar group of study. Hence it was indicated that the results of treatment with 5% sample rabicidal vaccine manufactured by the institute was superior to those obtained with 1% sample vaccine used previously.

The Government of India Influenza Centre, Coonoor, was established at this institute in 1950 with the object of international collaboration in the field of influenza.

The event of 1957 ruled out the previous seasonal explanation and the outbreak appeared at the end of May, well past the winter. With 44 active cases of influenza on board S. S. Rajula arrived from Malaya and was quarantined off the Madras port on her arrival on the 16th May.

The results of serological investigation as well as antigenic and other studies isolated in the area during the outbreak all pointed to the Asian influenza virus as being responsible. It was found that the sera from cases from Coimbatore, Tuticorin in the Madras State and Kozhikode in Kerala State gave evidence of infection with Type B virus only. In Madras city and Madurai they reacted with Type A as well as Type B viruses, suggesting both virus types were causing infection in the population at the same time.

Specimen of sera obtained from Assam in June 1957 reacted only with Type B virus. This rendered it probable that Type B virus infections were current in India. Good results were obtained in the treatment of cases of influenza with Iodine preparation orally, by intramuscular and by intravenous injection. Out of 55 cases of serious influenza admitted at the Infectious Disease Hospital, Ootacamund, six patients who had pronounced general toxinira and temperature of about 104°F were given intravenous therapy with 10 cc collosol Iodine (Crookes). In 5 cases, the temperature came down to normal within 24 to 36 hours after the first injection with a rapid disappearance of toxiria. The remaining cases improved after administration of achromycine. Prophylaxis with Mandle's paint and iodine spray also proved satisfactory. Laboratory studies for isolation of the virus, action of ether on influenza virus and the serological investigation of outbreak and production and testing of influenza virus vaccine were carried out.

Soon after the rapid spread of 1957 epidemic, it was decided to concentrate all efforts on production of influenza virus vaccine from the new strain in adequate quantity.

A representative strain isolated in Malaya known as PAR was flown out to India under dry ice packing through the courtesy of W.H.O. The strain was established in eggs and consignments of materials from this were being distributed for vaccine production to the laboratories in Armed Forces Medical College, Poona, Central Research Institute, Kasauli, Haffkine Institute, Bombay, and to many other centres in India like Trivandrum, Bangalore, New Delhi and Calcutta for laboratory studies.

In large scale manufacture of vaccine, when it was switched over from pilot production attended with numerous difficulties at the organisational as well as technical levels. Egg shell contamination was a serious problem when using with the arrival daily in hundreds of eggs from outer station, all packed in straw. This appeared to be a formidable difficulty, involving much labour and effort to overcome. Any method adopted should neither interfere with the viability of the eggs nor have a deleterious effect on virus multiplication. After trial with many antiseptics and methods, Zephirol Bayer, a high benlar ackyl-dimethyl-bazyl ammonium chloride product in 1% strength was selected with advantage.

THE INDIAN COUNCIL OF MEDICAL RESEARCH, NEW DELHI

With the liberal assistance given by the Government of India during 1957-58 the Indian Council of Medical Research made a substantial progress towards the fulfilment of the objectives of Second Five Year Plan. The Council spent a sum of Rs. 56,58,618/- in advancing research during the year against a sum of Rs. 33,04,163/- during the earlier year. The number of research proposals supported during the year was 300, while the number during the previous year was 167.

Research activities of the Council covered many fields during the year viz. Clinical Research, Communicable diseases, Environmental Hygiene & Sanitation, Industrial Health, Maternal and Child Health, Physiology and Pharmacology, physiology of Human reproduction, Virus Research, Trachoma, Nutrition etc.

Clinical Research:

During the year, research were in progress in such diseases as Atherosclerosis, Hypertension, Asthma, Eosinophilia, Anaemia and into the mechanism of formation of stones in Kidney and Gall bladder.

Subjects like induction of hypothermia for carrying out operations on the heart and treatment of intra-articular fractions were also investigated at some centres.

Work on nutritional microcytic anaemia continued with special reference to such problems as absorption of Vitamin B_{12} etc.

Communicable Diseases:

Researches on Cholera continued to unravel some of its mysterious aspects which have proved elusive so far.

Deformities in leprosy were found to be predictable in view of the fact that certain nerves and muscles are more vulnerable than others. A programme of physio-therapy, with the use of suitable shoes and adoption of certain operative procedures in the correction of deformities, had been enunciated.

The Tuberculosis chemotherapy project, which was started in Madras in cooperation with W.H.O., continued for the purpose of evolving methods for ultimate control of tuberculosis with domiciliary treatment.

Environmental Hygiene:

In the wake of Industrial progress in the country, the council established in 1956 an Industrial Waste Disposal and Water Pollution Research Unit at the All-India Institute of Hygiene & Public Health, Calcutta with field units in some of the highly industrialised States. During the year under review these units completed surveys of important wastes from distilleries, sugar factories, tanneries, rice mills and textile mills. On the basis of the data, so collected, a disposal for proper treatment of tannery wastes in the Jajman area at Kanpur was worked out.

Maternal & Child Health:

The Maternal and Child Health Advisory Committee of the Council indicated the basic components and requirements of a comprehensive health service for expectant mothers and children, with special reference to the training of personnel, such as dais, midwives, nurses and doctors. Special attention was paid to research on toximia and anaemia of pregnancy.

Physiology and Pharmacology:

A Neurophysiological unit was set up by the Council in All-India Institute of Medical Sciences, New Delhi. A programme of research in Yogic practices was outlined during the year. Drug Research Units, established at various centres with a view to screening promising indigenous medicinal preparations, continued to make good progress.

Physiology of Human Reproduction:

On recommendation of Family Planning Board of the Government of India, the Council initiated a research programme in physiology of human reproduction. The programme covers the study of all aspects of menstrual process in women and the role of endocrine glands in menstruation, ovarian functions etc. The study of spermicidal drugs and oral contraceptives were also started.

Virus Research:

During the year under review, intensive studies were carried out in the elucidation of a new disease that broke out in the forest region of Shimoga District in Mysore and a virus of "Russian Spring and Summer Encephalitis" group of viruses was isolated by the council and established that that virus was the cause of the new disease.

Two units for the study of respiratory and intestinal viruses were established at the Pasteur Institute, Coonoor. The Council gave a grant for the study of techniques essential in the manufacture of influenza vaccine. Hence it was possible for Government of India to organise the production of influenza vaccine in different centres in the country and for the workers to isolate several strains of the viruses from local cases in different parts of the country.

Trachoma:

The Trachoma Control Pilot Project, which was started in cooperation with W.H.O. initiated at Aligarh, made a considerable progress and had been extended to Sitapur area in Uttar Pradesh during the year.

Nutrition:

Studies were under way on growth and development of Indian children and protein malnutrition.

Nutrition Research Laboratories, Coonoor, conducted multifaceted protein malnutrition surveys in Andhra Pradesh, Madras, Mysore and Kerala State. A scheme for detailed health survey of families in New Delhi was also undertaken during the year under review.

Advisory Committee

The Advisory Committee of the Council with the Sub-Committee met at King George's Medical College, Lucknow in December 1957 and reviewed the research work carried out in the country under the auspices of the Council, during the financial year 1957-58.

INDIAN CANCER RESEARCH CENTRE, BOMBAY

The Indian Cancer Research Centre was inaugurated in December 1952. The concerted efforts of all the workers in the establishment and the subsequent progress of the institute have borne fruit and a number of Departments and Sections have reached maturity with a hope of further development and expansion for reasearch and education in Cancer.

Institutional facilities by way of equipment and instrumentation are of an up-to-date nature and adequate for some of the most advanced type of work relating to Physiochemical, Biochemical and Biological work.

Bearing in mind the available facilities, the following Sections were working out the Cancer problems of Pathology, Experimental Biology, Biophysics, Biochemistry, Enzyme Chemistry, Human Variation Unit, and Statistics. Pathology of Leprosy and its mode of transmission in man, Family Planning Research and Biology and Medical Division of Atomic energy Establishment were also pursuing research work during the year.

Surgical Pathology:

The department of Pathology is an integral part of Tata Memorial Hospital. The department continued to deal with the histopathological examination of biopsies and surgical specimens, and with routine examination of blood, urine, stool, and of normal and pathological body fluids, in connection with the diagnosis of Cancer. During the year under review the department received 3574 biopsies and 2337 surgical specimens from various parts of India as compared to 3244 and 2055 specimens respectively during 1956.

A study of sarcomas of bone showed that these tumours form about one per cent of all malignant tumours. Carcinoma of breast ranks fourth in frequency of all Cancers, the first three, in that order, being those of mouth, larynx, and cervix. The Neurological Unit, financed by the Indian Council of Medical Research continued to give technical advice to other institutions. Studies in Lathyrisum and studies in pyridoxine and pantothenic acid deficiencies were also undertaken in this unit during the year.

Experimental Biology:

The biological study of "Mechanism of carcinogenesis" was undertaken as the main problem for investigation in this department. During the year, further studies were undertaken on the process of chemical carcinogenesis in mammary cancer and skin Cancer. Mechanism of "Tumour Metastasis", "Tumour progression" through transplantation and vascularisation of Liver tumours were some of the other important aspects of the study under way. Extensive investigations were also in progress to elucidate the role of endocrines and heredity in carcinogenesis, induced by micro-dose of a chemical carcinogen.

Chemical carcinogenesis of the skin was one of the most investigated subjects in Cancer Research. The testing of extracts of tobacco leaves and the testing of sulphur thiosters of carcinogenic hydrocarbons were subjects of investigation during the year.

Biophysics:

The two laboratories of the Biophysics Department of the Centre—Spectroscopy and Electron Microscopy continued their work on physical aspects of different biological subjects.

In collaboration with the Biology Division of the Atomic Energy Establishment, studies on the biological effect of ionizing radiation and studies on the applicability of the methods of chemical dosimetry when the irradiations are done, by means of radon capillaries were carried out in this laboratory during the year.

In India, the incidence of oral Cancer is higher than lung Cancer which is more common in Western countries. During the year under review investigation started in this department attempting to throw light on various aspects of smoking vis-a-vis Oral Cancer.

Experiments in Histochemical and Electron Microscopical study of Primary tissue disorders, comparative study of normal and malignant squamous epithelium of the buccal mucosa, and Electron microscopy of liver biopsies in infantile cirrhosis were in progress.

Biochemistry:

Studies on B-vitamins, estrogens and their interrelationship in oral Cancer that were in progress had been completed during the year 1957. It was found that estrogen treatment, in the case of male oral Cancer patients was harmful as it induced deficiency of thiamine and riboflavin.

Human smegma has been associated with the Cancer of the penis. Three hitherto unisolated crystalline compounds viz., B-cholestanol, B-cholestanol ester of a saturated branched chain fatty acid and an unidentified compound m.p. 125°C had been isolated during the year.

Enzyme Chemistry:

Major problem of investigation in the department since its inception was related to enzymes involved in the metabolism of folic acid. During the year two subsidiary lines of investigation started. Metabolic studies of Human Leprosy organisms (Scheme under Indian Council of Medical Research) and Role of Enzymes in the Toxic Action of Snake Venoms with special reference to Neurotoxins (Scheme under Council of Scientific and Industrial Research) were in progress.

Human Variation Unit:

The Indian Council of Medical Research showed its interest in the establishment of a Blood Group Reference Centre for India during the Second Five Year Plan period. The Unit took a leading role in this endeavour by supplying laboratory facilities, trained personnel and some biological reagents. An active centre started functioning in Bombay since the beginning of 1957. The Unit is participating in its programme of teaching and research in connection with the qualitative aspect of population.

Genetics of Human population, Heredity diseases and defects for a genetic study, Sex endocrine disorders were the main subjects of investigation of the Unit during the year.

Leprosy:

A study of the pathology of leprosy and its mode of transmission in man interested research workers at the Indian Council of Medical Research. The Indian Council of Medical Research and Gandhi Smarak Nidhi continued financial assistance to a Leprosy Enquiry which was in progress at the Centre. The various researches on leprosy carried out at these laboratories during the year were: —

(a) Striated muscle and the motor unit in Leprous Polyneuritis;

(b) Histological study of macules in contacts of leprosy patients;

(c) Histological study of early lesions in leprosy patients;

(d) Comparative study of the effect of Di-amino-diphenly-sulphone and thiosemicarbosone on lepromatous leprosy cases.

Family Planning Research:

The Indian Cancer Research Centre was also functioning as the Centre for the Contraceptive Testing Unit. Three main lines of research were pursued by the Unit during the year. First the testing of Oral and local Contraceptives in order to determine the acceptability, effectiveness, and harmlessness of them before they could be released. Secondly the development of effective oral and local contraceptives and thirdly Biological studies on physiology of human reproduction with particular reference to the conditions existing in India.

Atomic Energy Establishment:

The Biology and Medical Division of the Atomic Energy Establishment of the Government of India continued to be located at the Indian Cancer Research Centre. In the Biology Division, the works were carried out. (1) Cytochemical studies of nuclear metabolism in biological systems, (ii) Mutational Studies, (iii) Detoxication and Elimination of Radioactive Elements from the body, (iv) Radiolability of Haemoglobin, (v) Chemotherapy of Cancer, (vi) Sequence of Amino Acids in Tumour Proteins, (vii) Influenza of Serial Transplantation of Tumour on the Reproductibility of Biochemical characters, (viii) Metabolism of Calcium and Breast Cancer, (ix) A new method of Hydrolysis of Nucleic Acids, (x) and the Pituitary Adrenal Gonad Relationship.

In the Medical Division:

Work on (i) Exfoliative Cytology, (ii) Haematology and Radiation Protection and (iii) Studies of skin Regeneration after Damage caused by Radiation continued during the year.

VIRUS RESEARCH CENTRE, POONA

The Virus Research Centre, Poona, established in 1952 with aid from the Rockefeller Foundation and being maintained jointly by the Indian Council of Medical Research and the Rockfeller Foundation is now conducting large scale research on Virus diseases.

The Clinical and Virological study of Japanese B encephalitis and "Pyrexias of unknown origin" in and around Vellore in the North Arcot district of Madras State were continued in 1957 in conjunction with the Virus Research Centre field station in Vellore and with the co-operation of the Christian Medical College Hospital, Vellore.

Also initiated in the Vellore area were studies of the bionomics of the *Culex vishnin* complex of mosquitoes from which a number of virus isolations had been made.

The collection of human sera and Entomological and Zoological specimens in the Krishna-Godavari Delta as part of epidemiological studies of Japanese B virus in India, were also continued during the earlier part of the year.

New Virus Disease, known as Kyasanur Forest Disease in Shimoga district, Mysore State:

In March 1957, the Virus Research Centre on receipt of information that number of monkeys were dying in the Forests of Sagar and Sorab taluks of Shimoga district, together with concurrent cases of a febrile illness simulating Enteric Fever in humans in the adjacent villages, a unit from Virus Research Centre started field investigation and research immediately. A filtrable agent was isolated from the blood and organs of dead monkeys from forest and from blood of human cases of the disease. Serological test showed that the agent was a tick borne virus closely related to the virus of Russian Spring-Summer encephalitis and the agent was named Kyasanur Forest Disease. Virus after the forest where it was first isolated from a monkey, and the disease itself, which was recognised as a hitherto unknown entity, was named Kyasanur Forest Disease (K.F.D.).

Towards the end of 1957, anticipating a fresh outbreak in 1958, measures for checking the spread of the disease and its complete eradication, if possible, were recommended by the Director, Virus Research Centre, in consultation with Central Ministry of Health and the Public Health Department of Mysore State. Of these, immunisation of the population at risk as the most feasible method was accepted and a Research Officer and Research Assistant of Virus Research Centre, Poona were deputed to the Water Reed Institute in Washington to observe and study methods of vaccine production.

Serology Section:

In addition to the complement fixation test, the haemoagglutination inhibition test was established during the year as a routine procedure in arthropod-borne investigations. Several isolates from ticks, monkeys and humans during the Kyasanur Forest Disease investigation were identified by the 'quick antigen' method. During a one month visit of Dr. Delphine Clarke of Rockefeller Foundation Virus Laboratories, New York, new techniques for the preparation of Haemoagglutination inhibition test antigen of high litre and less temperature dependence were developed and have been in use since.

Tissue Culture Section:

Work on the maintenance of different cell lines continued and a duplicate set of cell lines was made available to the Indian Cancer Research Centre, Bombay, for maintenance. At the suggestion of Dr. Telford H. Work, in August 1957, Hamster Kidney Epithelial Cells (H.K.E.C.) were being grown in tissue culture and experiments were in progress in connection with the use of these cells for the study of viruses maintained in the Virus Research Centre. Kyasanur Forest disease virus had already undergone several passages in chick embryo cells, monkey kidney epithelial cells and in hamster kidney epithelial cells.

Experimental Entomology Section:

Ticks and mites collected in Kyasanur Forest disease epidemic area in Shimoga district were identified, pooled and handed over to the Virology Section for processing.

Three strains of K.F.D. virus were studied for their ability to infect mosquitoes following inoculation and feeding. The virus was present in C. *pipiens fatigans* and A. *albopictus* for 25 days and 45 days respectively after inoculation. In *Anopheles stephensi* var *mysorensis,* it was detectable for upto 15 days following inoculation. None of the inoculated mosquitoes transmitted the infection by bite. The results of feeding experiments with A. *albopictus* showed that the virus after ingestion by mosquitoes disappeared from their body in about 24 hours.

ALL INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH, CALCUTTA

Activities of the institute continued relating to the training of Public Health personnel of different categories and to the carrying out of researches in respect of various problems of Public Health importance, and development of effecting, economical and practical methods of community administration for ensuring a high standard of health of the people of urban and rural area during the period under review.

The Institute did not undertake any manufacture of Sera or vaccine during the year, but, following Prophylactic inoculations were carried out during the period under review:

(i) Yellow fever inoculations—4,240 persons.

(ii) Typhus inoculations—11 persons.

Routine bacteriological examination of water samples received from various sources were done, the total number of which was 450 during the year.

Further 575 samples of Blood for Kahn test received from the Maternity & Child Welfare Clinic, Chetla, the Urban Health Centre, Chetla and Rural Health Centre at Singur and 27 samples of blood for Widal tests received from the Public Health Laboratory, Singur were also carried out in the Institute. Number of students underwent training in the different degree, diploma and certificate courses of the Institute in 1957 were 327.

Research and other activities:

Dr. K. C. Patnaik, Associate Prof. of Social Medicine took overall charge for coordination and conduction of a general health survey initiated at the Singur Thana area during the year under review.

Cholera:

The serology and biochemical studies of the inagglutinable vibrios supposed to be mutants obtained after artificial injection with true cholera vibrios were carried out. It was reported previously that the fish after artificial injection excrete N.A.G. vibrios invariably belonging to Heiberg's group VI based on biochemical characters and later on, other group viz., Heiberg's group I and II are excreted. A large number of sera against such groups of vibrios were raised. It was noticed that, the strains were serologically identical but the same sera failed to agglutinate the strains belonging to the same group isolated on different days. This behaviour was observed not only with strains belonging to Group VI but also with strains belonging to Groups I and II.

It was interesting to observe that the sera raised against Group II vibrios, agglutinated the strains belonging to group I. This indicated that there was a lack of correlation between the serological and biochemical findings. It is likely that serological studies may not yield satisfactory results. It seems that the enzyme make up of these strains may throw some light on the relationship of these vibrios.

Cholera Phage:

This study was being carried out to evolve a suitable method for typing strains of V. cholera on the basis of the lytic pattern with different races of cholera phage. This might be helpful in epidemiological study of this disease to trace source of infection and to plot its spread.

Water Examination:

Examinations of water from certain sources were being carried out regularly in order to ascertain if there was any likelihood of any change in the vibrios in regard to their haemolytic activity.

Deficiency disease in School Children:

Nutritional survey status carried out during the year in schools in the urban and in the rural areas showed that incidence of avitaminosis A cases was rather high. Analysis for fluorine content of water in these areas had also been undertaken by the Institute. Further work was in progress to see if magnesium oxide could be used to defluorinate potable waters where fluorosis was a public health problem.

Research on oral contraceptives:

Some 1798 gms. of metaxylohydroquinone was prepared from 3.85 kg of 2:6 dimethylaniline in 77 lots. The average yield was 46.5 per cent. Since Sodium metabisulphite was used in the process, the sulphur-dioxide content of the final product was estimated in each of the lots; it was found to vary from 0.41 to 0.60%. For the use in the clinic, 1604 gms. of metaxylohydroquinone was supplied in 4365 capsules each containing 0.3 to 3.4 gm. Stearic acid containing 0.4 to 0.6 gm. of sulphur-dioxide was prepared. Some 298 gms. of stearic acid was supplied in 805 capsules for this purpose.

From the time the experiment began on the 1st January 1956 upto the end of December 1957, 209 women were given the drug and 201 (M group) women were enrolled in control group (O group). Average age of the women in 'M' group was 28.6 years and that in 'O' group was 28.8 years. The average number of children born alive to women before they began receiving drug was 5.3 which was not statistically different from 5.2 the average for those in the control group.

Of the 209 women in the 'M' group 74 became pregnant, while of the 201 women in the 'O' group 108 became pregnant, most of these pregnancies having occurred within one year of observation of the women in "menstruation status".

So, pregnancy rate worked out to 86.5 pregnancies per 100 years of exposure in the 'M' group and 148.5 pregnancies per 100 years of exposure in the 'O' group. The reduction of the pregnancy rate of 'M' group was a definite indication of effectiveness of the drug.

Indian Council of Medical Research Scheme on Industrial Waste disposal and Water Pollution Research at All-India Institute of Hygiene and Public Health, Calcutta:

The unit had continued research work on treatment of sugar and distillery wastes during the year.

As a result of Laboratory studies, Hydrodictyon and Chlorella species of Algae are of value in purifying partially treated distillery wastes. Laboratory experiments show that with 1:40 dilution of distillery waste the Hydrodictyon produces an effluent with a B.O.D. of 2.5 to 100 ppm and Chlorella with a B.O.D. of 2.5 to 15 ppm.

Further work for treatment of distillery and Sugar Wastes was in progress.

Indian Council of Medical Research Scheme on effect of Sewage treatment processes on Tubercle Bacilli:

In collaboration with Sanitary Engineering Section of this Institute, study on effect of sewage treatment on viability of tubercle bacillus was being carried out in two sewage treatment plants in the Jadavpur and Kancharapara Sanatoria near Calcutta. It was interesting to note that most of the samples including final effluent showed the presence of Acid fast organism. This study showed that the treatment plants were not functioning effectively with a view to removing tubercle bacilli from final effluent.

Experiments for Chlorination of effluent indicated that a dose of chlorine sufficient to leave a residue of 1 to 3 ppm and contact for 30-60 minutes was necessary for efficient disinfection of effluent. Further work on finding the exact dose of Cl_2 and the contact time required to kill all T.B. germs in effluents was in progress.

Epidemiology:

Studies in Epidemiology in Plague—Field observation in Calcutta, suggested the possibility of the plague infection remaining in chronic foci in the living immunised rats particularly in their spleens during the inter-epidemic period. This observation was confirmed experimentally in mice by continuous and successive transmission experiment through fleas. There was also a change of virulence of organism from Virulent to the Sub-virulent stage and *vice-versa* according to the epidemiological situation, particularly the host-parasite relationship. An important collateral development which emerged out of this study was the greater efficiency of specific plague protein as an immunising agent. Further animal as well as human experiments were therefore indicated.

Surveys:

(1) *Health Survey in Community Project areas*—During the year under review, the Health Survey party conducted survey in three blocks, viz., Captainganj Intensive Development Block in Uttar Pradesh; Rangiya Community Development Block in Assam; and major part of the Thoubal Post Intensive Block in Manipur.

Showing the total Health Survey work done in the Community Project Areas during 1957.

	Captainganj I.D. Block U.P.	Rangiya C.D. Block, Assam	Thoubal P.I. Block Manipur
Period of survey	28-1-1957 to 18-5-1957	1-6-1957 to 3-9-1957	14-10-1957 to continue beyond 31-12-1957
Area in sq. miles	75	113	170
Population	87,059	65,000 (approx.)	1,27,781
Population taken for survey	67,059	65,000 (approx.)	79,474
No. of villages	83	111	73
Total No. of villages surveyed	30	34	28
No. of families examined	541	463	425
No. of individuals examined	3,090	2,923	2,296
No. of Blood Samples examined	2,336	2,463	1,999
No. of stool samples examined	1,021	1,668	1,035

(2) *Investigation of Influenza*—Although during the period of influenza in Calcutta from third week of May to the end of June 1957 only 14,377 attacks and 195 deaths were officially notified. A house to house investigation in two widely separated areas in the city of Calcutta reviewed that the attack rate among 5,504 population living in 876 households was 515.1 per 1,000; but compared to it the specific mortality rate was 0.363 per mille. The attack rate in children between 2—15 years was higher than in older age groups. Fatality was less than 2.8 per cent even in the most vulnerable age group.

During the influenza epidemic of the year, the section of Microbiology in collaboration with the Epidemiology Section of this Institute undertook an elaborate investigation to isolate the Influenza virus from the naso-pharyngeal washings of cases. No strain of influenza virus could be isolated. However, the haemoagglutination inhibition test with a paired sample of sera collected during the acute stage of the disease as well as during convalescence definitely showed the significant rise in the antibody titre against an Indian strain. This strain was isolated when the epidemic occurred in Madras Presidency.

(3) *Rural Field study of Population Control in Singur*—This project mainly financed by the Population Council of New York was to evolve the most suitable method of educating rural population in family planning methods. Three methods chosen for teaching programme are simplified Rhythm, Withdrawal, and the use of foam tablets. A group of villages having about 7,500 population 1,138 households were chosen for experiment. Married couples, with the age of wife varying from 15 to 40 years, formed the subjects of the study. Teaching was started in the experimental villages in October 1957 preceded by the survey of the attitude of couples towards family planning.

(4) *Mass Chest Radiographic Unit*—Mass Chest Radiographic Unit continued to be engaged in the National Tuberculosis survey sponsored by the Indian Council of Medical Research. A portable x-ray unit loaned

by W.H.O. was put in operation during the year. Approximately 25,000 persons in 29 blocks in Calcutta city, 4 municipal towns and 3 villages were examined both Radiographically and Bacteriologically since the survey was started.

NUTRITION RESEARCH LABORATORIES, COONOOR

A large number of research projects sponsored by the Indian Council of Medical Research under the Second Five Year Plan were initiated.

Biochemical Investigation:

During the year, work on "the general lowering of enzyme activity in protein deficiency states" was greatly extended. The effect of low and normal protein diets, with or without vitamin B_6, on blood glutamateoxaloacotate transaminase (G.O.T.) activity was studied. Protein and pyridoxine deficiency affected blood transaminase activity, the effect of pyridoxine being progressive and lasting. On realimentation, pyridoxine appeared to have a dominant part. Calories played a minor role in bringing about changes in transaminase. Other liver enzymes were also studied in protein deficiency, with special reference to DPN metabolism. Protein deficiency affects adversely the oxidative enzymes in liver with malic oxidase and cytochrome C reductase, the two enzymes involving DPN. The amounts of this co-factor in liver are considerably reduced in protein deficiency.

Further experimental investigations in rats confirmed that cereal-pulse-leafy vegetable diets have a definite place in the prevention and treatment of protein malnutrition. They not only help to maintain normal haemoglobin and plasma protein concentration, but also keep in the regeneration of blood proteins although at a somewhat lower rate than skimmed milk.

Chemical composition of Indian food stuffs:

Work on the nutritive value of food stuffs continued. A batch of 6 fruits, 13 vegetables, coconut water, coconut milk (milk squeezed from grated coconut) and three specimens of seaweeds collected from South-east coast of India were analysed during the year.

Iron Metabolism:

Extent to which iron deficiency contributed to anaemia in the tropics was investigated. Vegetarians or non vegetarians and subjects to the low socio-economic groups consuming their usual diets maintained positive iron balance.

Vitamins:

Investigations on the influence of dietary protein on the utilisation and storage of vitamin A in the liver showed that the maximum storage occurred on a 12% protein diet.

Vitamin D administration was found to increase the liver citrogenase activity in rachitic rats and plasma citric acid. There was also a progressive increase in the total P and Ca in rachitic cartilage brought about by vitamin D administration. Much of the rise in total P could be accounted for by the increase in the inorganic P fraction.

The biochemical changes taking place during the healing of rickets by total starvation were studied. While healing of rickets with vitamin D was accompanied by increase in citrogenase activity and citrate content of the rachitic cartilage, such changes were not observed during healing by starvation.

Clinical Investigations:

Role of ferritin in nutritional oedema was investigated. The presence of ferritin at the stage when oliguria and oedema are marked features and its absence following on nutritional therapy would appear significant and suggest a casual relationship between ferritinaemia and anti-diuresis in malnutrition.

Studies on the effect of dietary factor on serum cholesterol from the epidemiological and experimental angles showed that the type of fat had a pronounced influence on serum cholesterol level. Calorie and protein restriction contribute to the reduction of serum cholesterol levels.

Pathology:

Very low levels of dietary protein were found to exert an inhibitory effect on both cellular and extra cellular fibrous tissue formation in the liver in experimental animals in spite of chronic liver damage. Administration of cortical hormones had no beneficial effect in the early phase of cirrhosis in experimental animals.

The pattern of histological changes in the liver in "Infantile Cirrhosis" closely resembled the several changes that occur at different stages of infective hepatitis in adults suggesting a common viral aetiology. Though some relationship had been found to exist between the high incidence of "post-hepatitis syndrome" and a relatively poor nutritional background, the children of the poorest economic group are spared this disease.

Field Investigation:

Studies were in progress on the chemical composition of human milk in different stages of lactation and the effect of nutritional supplements thereon, haematological studies in lactating women and on attitudes towards lactation in different socio-economic and cultural groups.

Other investigations carried out under the Second Five Year Plan Projects during the year included studies on growth and development of children, and nutrition in relation to factory environment.

The usual summer course in Nutrition to Medical Officers of Health and nutritionist was conducted. In addition, a seminar on protein malnutrition was held to provide training and background information to the officers selected to work on the projects sponsored under the Second Five Year Plan.

HAFFKINE INSTITUTE, BOMBAY

During the year under review increased demand for the manufacture and issue of large scale production of prophylactic vaccine sera, antitoxin, sulpha drugs, Nicotinamide, Vitamin Tablets, Magesium Trisilieate Tablets and the steady progress in the research activities in various departments continued.

The Government of India Yellow Fever Unit remained attached to this institute during the year. Prophylactic inoculation against yellow fever was carried out to 9,181 persons and 18 potency tests of yellow fever vaccine were performed. Moreover 8,020 doses of yellow fever vaccine were supplied to 10 different centres in India during the year.

Institute was faced with an emergency due to the out-break of epidemic of influenza in the country in the month of May 1957. Production of influenza vaccine in the institute from virus of Asian Influenza Strain was undertaken at the instance of Government of India. Total quantity of Influenza vaccine manufactured during the year 1957 was 30,000 doses and the quantity supplied to the Government of India was 30,000 doses. The institute also manufactured Hyperimmune Serum for prophylaxis of rabies, Triple vaccine for prophylaxis of Diphtheria, Whooping Cough and Tetanus, and Influenza vaccine.

Studies were under-taken to find a practical method for manufacture of N^1-p-methyl benzene sulphonyl-N^3-n-butyl-urea. The chemotherapy Department filed a patent for methods of synthesis of N^1p-methyl benzene sulphonyl-N^3-n-butyl-urea, a compound which is effective in the treatment of diabetes by oral route.

In the serum department, research activity on the purification of antitoxin sera, preparation of combined prophylactics against Diphtheria, Tetanus and Pertussia and Isolation and study of biologically important constituents of the venoms of Cobra and Russell's Viper continued during the year under review.

Research study on *Treponema pallidum* agglutination test and the epidemiological aspect of Salmonella infection in the laboratory mice were carried out.

Pharmacology experiments proved that 'Neomycine' was efficacious in the treatment of cholera, if the dose is given orally at an early stage of the infection.

The Expert Committee of I.C.M.R. on Virus disease, desired this institute to carry out field trials on Hyperimmune Rabies Serum, with the help of Government grants under the Second Five Year Plan. It was possible to produce fourteen litres of horse Hyperimmune Serum and same was being administered by field trial all over the State. 26 patients completed the therapy during the year.

The institute continued to conduct its routine work on Blood Bank. Under the auspices of the Blood Group Reference Centre of the Indian Council of Medical Research, the preparation of Standard Blood Grouping Sera was undertaken. The standard Anti-A and Anti-B were prepared. Anti-D (Rho) Serum was prepared by immunizing Rho negative donors by giving intravenous injections of Rh positive blood. Eight donors were immunised and four of them showed good titre of Anti-Rh-anti bodies. Anti-Rh Serum is being prepared by absorbing redundant antibodies. Besides Anti-rabic treatment, yellow fever immunization, and production and sales of various products, the analysis of the samples of Blood, Urine, Body fluid, and Sewage effluent and Water were also continued as usual.

CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, TIRUMANI, CHINGLEPUT

The Central Leprosy Teaching and Research Institute comprising the Lady Wellingdon Leprosy Sanitorium at Tirumani and the Silver Jubilee Children's clinic at Saidapet was taken over by the Governing Body of the Institute from January 1955. During the year under report the Director of the Institute was appointed and with the joining of the Director on 19-8-1957, who is also the ex-officio Secretary of the Governing Body, the office of the officiating Secretary ceased to function at Delhi and was shifted to Tirumani. Activities of the Institute comprised in the treatment of the patients, Training Medical officers and Health and Sanitary Inspectors in Leprosy and Research.

Research activities were confined mostly to the Therapeutic aspect with clinical trials of Hydrosulphone, I.N.H. and S.U. 1906, during the year. It was observed that Hydrosulphone had no appreciable advantage over Sulphone, I.N.H. was found of value both as an adjust to sulphone and as an alternative to this drug. Trials with Su 1906, a theo-urea derivative, continued. Chlorpromazine was found to be of value in painful complications of leprosy. Investigations on prophylactic role of DDS in healthy contacts of leprosy cases were initiated during the year under review.

CENTRAL DRUGS LABORATORY, CALCUTTA

During 1957, a large number of samples of drugs and pharmaceuticals were received for testing in various departments of the Central Drugs Laboratory from Drugs Controller (India), Asstt. Drugs Controllers at ports, Custom authorities, State drug control authorities, Courts of Law and Medical Store Depots. The samples received were distributed in one or more departments depending upon the nature of testing involved in a given case. Number of samples analysed by different departments, is as follows:—

Pharmaceutical Chemist ...	728
Biochemistry ...	1201
Pharmacology ...	438
Pharmacognosy ...	106
Bacteriology ...	1521

In case of Bacteriology Department, the break up of the tests done was as follows:—

Sterility test ...	944
R.W. Test ...	59
Surgical Sutures test ...	36
Antibiotic tests ...	158
Vitamin assays ...	311
Miscellaneous ...	13

No sera, vaccine etc. were manufactured or supplied by the laboratory during the year.

Pharmaceutical Research:

Belladona Plaster is a mixture of adhesive plaster mass and an extract prepared from belladona root spread evenly upon fine cotton cloths or other suitable material. It is to contain 0.25 per cent of the alkaloid of belladona root. It has been observed in the laboratory that a portion of the alkaloid is lost during the process of manufacture and also during storage for more than a year.

Tolbutamide is a well known drug in the treatment of diabetes. Attempts were made to apply bromine absorption method to estimate the drug quantitatively and also to devise suitable spectroscopic method of assay for this compound.

Premenolysin is a new combination of drugs containing 5 mg of phenly-methyl-vallrianic acid-diethyl-amino ethyl ester bromomethylate and 1.5 mg of yohimbine hydrochloride per tablet together with 10 mg of n-methyl-pheno-barbitone, 20 mg of Caffeine, 35 mg of amidpyrine was also successfully estimated by conductometric titration methods.

Estimation of Calcium hypophosphite in syrupy liquid in presence of other hypophosphites is effected with considerable saving of time if the method is modified by precipitating the calcium as oxalate, filtering and titrating the precipitate by Potassium permanganate in presence of sulphuric acid at 60°C.

Estimation of Zinc Oxide in Zine oxide self adhesive plaster—According to the British Pharmaceutical Codex zinc in this preparation is precipitated as phosphate, ignited and weighed as zno. In the proposed modification, the adhesive mass is extracted with chloroform and then treated with a known volume of acid. After thorough shaking the excess acid is back titrated by alkali. The result agrees very well with the prescribed method.

Estimation of Piperazine and its salts in complex mixtures—It is generally assayed by determination the nitrogen content. In the proposed modification 1 ml. of solution is diluted to 100 ml. with water. To 1 ml. or 2 ml. of the diluted solution 5 ml. Nessler's reagent is added producing a turbidity. This is matched against standard solution similarly prepared, in a Pulfrich photometer and the concentration calculated. This method saves good deal of time.

Pharmacognostic Research including indigenous drugs—During the period under review the work on new standards for tinctures were continued and Tr. Saussurea and Tr. Rauwolfia were investigated.

Investigations on Glycyrrhizae fluid extract were taken up for finding some new standard as the specifications mentioned in B.P. and I.P. only mention alcohol content, and wt./ml which were considered inadequate for purposes of identification. Attempts were also made to find out suitable methods for standardisation of Liquid ext. Glycyrrhizae on basis of Glycyrrhizin content as it was often found that total solid content of different samples of Ex. Glycyrrhizae are not constant, though alcohol content and wt./ml conformed to I.P. or B.P.

For the purpose of working out new standards for tinctures for which complete specifications did not exist in the Pharmacopoeias, Jr. Urgineae (I.P.), Jr. Quassiae (I.P.), Jr. Gentian Co. (I.P.C.), Ext. Aswagandha Iiq. (I.P.C.) and Jr. Bucha (B.P. 1934) were investigated during the year.

Biochemical Research:

Spectrophotometric method for the determination of Riboflavine in medicinal preparation—This new method consists in measuring the extinction on the addition of Sodium hydrosulphite and also after aceration of the treated sample. The method appears to be more specific, although less sensitive than the flurometric method under a wide range of values of pH.

Studies on absorption of spectra of Vitamin B, solutions were being made with a view to find out if spectrophotometric methods could be applied to the determination of Vitamin B, in medicinal preparations.

An attempt was made to estimate Vitamin B_{12} in multi-vitamin preparations containing antibiotics by a chemical method using Nitroso-R salt as the colouring reagent. It was observed that the chemical method was not applicable to such samples in such concentrations of vitamin B_{12}. Microbiological and Spectrophotometric methods appeared to be better suited.

Pharmacological Research:

The inhibiting effect of hydrocortisone and morphine on corticotrophine (A C T H) after stressful stimulii was studied and the work completed during the period under review. This inhibitory property had been utilised for establishing a method of assay of ACTH.

A modified method of bio-assay of adrenal cortical hormones based on eosinopoenia had been worked out. The method took account not only of the number of circulating eosinophils but also the total number of leucocytes and the ratio of the two.

Bacteriological Department:

The bacteriostatic action of 'Tetracycline' on vib. cholerae, and the development of resistance to the drug was studied.

The effect of combinations of different vitamins and combination of vitamins with antibiotics, with a view to find out whether such combinations affect the potency of vitamins or antibiotics, were investigated. Combinations of the vitamin B_{12} and penicillin and streptomycin have been studied. Combinations of vitamin B_{12} and chloramphenicol are under study.

Vitamin B_{12} combined with ascorbic acid, Pantothenic acid salts, methionine are being examined to find out whether such combinations affect the potency of vitamin B_{12}. Other combinations will be taken up subsequently.

The department has completed the investigation on the bacteriostatic property of the mercurial preparation Thiomerin (Sodium).

It was found that Thiomerin (sodium) possesses definite bacteriostatic properties particularly after prolonged contact. Compared against phenol, it is a weaker bacteriostatic. Phenol (0.5 per cent) has better bacteriostatic properties than 2 per cent thiomerin (sodium).

CENTRAL INSTITUTE OF RESEARCH IN INDIGENOUS SYSTEM OF MEDICINE, JAMNAGAR

The Central Institute of Research in Indigenous System of Medicine was established by Government of India in 1953 and the Post-Graduate Training Centre in Ayurveda in 1956 at Jamnagar. While the Research Centre had been carrying on clinical research in selected cases, the Post-graduate Training Centre in Ayurveda had been developing the method of teaching different aspects of the system.

During the year under review, technical research work of the institute continued on (1) the study of the Jalodara (Ascitis), Study of Grahani vikar (Disorders of the Digestive system), Study of Amavata Cases (Rheumatic conditions), (2) Identifications of crude Ayurvedica drugs, plants and herbs were also continued. (3) Selection of cases for study were made for research studies from the in-patient and out-patient departments. Ayurvedic and Siddha physicians of the institute prepared various proformae to record their observations and finding strictly on the basis of the classical literature of Ayurveda pertaining to clinical methodology.

In the department of pharmacognosy fresh specimens of drugs were verified on the basis of specimens preserved for this purpose and their histological studies were made. Pharmacognosists were sent to forest in the different parts of the country to collect specimens of plant which were carefully preserved in the Institute for the purpose of Darsana Shastri's interpretation. Pandu roga and Dhatu-Khaya cases were treated on the lines previously indicated and continued to show marked results with Punarnavan-mandura and Shuddha mandura.

Jalodara cases responded fairly well to either Jalodarari rasa or Arogya vardhani with Punarnava-mandura, Grahani vikara cases were treated with Vatsakadi quath, Panchamrit-Parpati and Suvarna parpati, singly or in combination. The results were being watched.

The Siddha Physician's team were distributed 8 beds to work on the same lines as Ayurvedic team. During the year under review they studied 27 cases for the purpose of research.

The modern team during this year investigated and studied 130 cases from the point of view of modern medicine, diagnosis and treatment in Ayurvedic and Siddha system of medicines. This section began studying grahani (Chronic diarrhoea) and Jalodara (Ascitis) cases treated by Ayurvedic team and Skin diseases treated by Siddha team of the institute.

The Darsana Shastry continued his research into the exposition of Manas-Prakriti and Tridosha, Udar, Grahani, Amvata and other diseases from relevant Ayurvedic and allied literatures.

A batch of 8 students from the P.G. Training Centre were attending the Institute to study the technique of research work during the year under review. Two research scholars were admitted for one year to the Institute during 1956-57. They were paid a stipend of Rs. 100 per month each.

The institute decided to publish monographs on Pandu Roga, Dhaterkshaya and Ayurvedic clinical methodology during the year.

KING'S INSTITUTE OF PREVENTIVE MEDICINES, GUINDY (MADRAS)

The Institute although originally decided to serve as centre for Vaccine Lymph established by the Government of Madras has developed into an important institution having functions covering the manufacturing, teaching and research aspects.

During the year a total quantity of 79,79,500 doses at four insertions per dose of vaccine lymph were manufactured including 75,000 doses purchased from the institutions of the other States. 645 doses were issued to the field for vaccine after the usual test for purity, potentiality and toxicity. 59,32,432 cc of Cholera Vaccine and 22,065 cc or T.A.B. Vaccine were manufactured and 84,01,477 cc of Cholera Vaccine and 1,55,658 cc of T.A.B. Vaccine were issued during the same period.

The Biological Control Section analysed a total number of 5,969 specimens of biological products received from the various hospitals of the States, private firms and also from the biological products manufactured in this Institute, and specimens received from the Drugs Inspectors under the Drugs Act were also analysed. The Anti-toxin Department of the Institute continued the production of Therapeutic Serum, to meet the demand of Tetanus-Anti-Toxine. A large proportion of horses, for the production of anti-tetanus serum, was in use.

The Blood Bank Section continued its activities satisfactorily and the total quantity of blood collected was 628 litres. The quantity of plasma manufactured was 258 liters and the quantity supplied was 214 litres and the quanties of group seria prepared and supplied were respectively 27,717 and 26,500 samples. The research work was also pursued in the section on the instance of Blood Groups among South Indians and experimental work on animals for obtaining an anti-serum for Group A Blood were carried out. Training was also imparted to 15 medical officers from different States in Blood transfusion and resuscitation working during the year 1957.

In the sterile solution section over 5 lakhs samples of different sterile solutions were manufactured and supplied to State hospital, local fund, Missionary and Municipal Medical Institutions.

In the water analysis department the hygienic quality of drinking water supplied in Madras and Andhra States was checked three times during the year. A total of 11,712 samples of water were tested for physical, chemical, bacteriological and biological characteristics. Research work was also conducted on:—

(i) Estimation of Manganese using Disodium Thylene diamine tetra acetic acid (EDTA)

(ii) The effect of break point chlorination of the feed water to a slow sand filter with special reference to:

  (a) the out-put of the filter between washings,
  (b) the production of H_2S in the slow sand filters and
  (c) the bacteriological quality of the filtered water.

An investigation on the treatment and disposal of Tannery Wastes was also commenced during the year along with the studies of fluorine content in samples of Turmeric.

The Government Analysis Laboratory continued food and drug samples as usual for the Madras State and Andhra State during the year. 18,000 Food samples were received from the local bodies in the Madras and Andhra Pradesh under the prevention of Food Adulteration Act and 11,000 samples from different Government hospitals in the two States were also analysed. About 150 drug samples were received under the Drugs Act. On account of the deterrent punishment given in case of penalties a trend was noticed in selling foods according to the prescribed standards by the merchants and the Government of Madras issued orders for the purchase of Agmark products for Government institutions with a view to encourage the marketing of products of good quality.

CHAPTER XIV

INDIGENOUS SYSTEM OF MEDICINES AND HOMOEOPATHY

Development of the Indigenous systems of medicine is very important for the purpose of providing medical relief to the vast rural masses who still continue to be benefited by practitioners in these systems of medicine. Although these did not receive adequate encouragement during the days of the British Government in India, the Government of India with the advent of independence started exploring the possibilities for their development. Since 1947, many Committees had examined the problems facing them and made various recommendations regarding improvement in medical education and research. Consequently, provision was made in the first two Plans, both in the Central and State Plans. During the First Five Year Plan a sum of Rs. 37.5 lakhs was earmarked and during the Second Plan, Rs. 100 lakhs for the Central Schemes and Rs. 521.83 lakhs for the State Plans were provided for the development of these systems.

The Central schemes were mainly concerned with research and upgrading of teaching institutions. Important to note in this connection was the appointment of an Adviser in the Indigenous systems of medicines in the Ministry of Health, Government of India during 1956-57.

Three Advisory Committees in Ayurveda, Unani and Homoeopathy were appointed to advise the Government of India on research schemes and other matters connected with the development systems. During 1956-57 grants-in-aid amounting to Rs. 1.8 lakhs were sanctioned for research schemes in Ayurveda to five institutions in the country. A total grant of Rs. 2.48 lakhs was sanctioned during the same year for research in Homoeopathy and for the upgrading of five existing homoeopathic institutions. Similarly, a grant-in-aid of Rs. 83,330 was sanctioned to the Tibbia College, Aligarh for research in Unani and for 10 research beds and another grant-in-aid of Rs. 1.05 lakhs was granted to the Tibbia College, Delhi for building and collection of manuscripts.

On the recommendations of the Central Council of Health at its meeting at Trivandrum in 1955 the Government of India appointed a Committee under the Chairmanship of Sri Daya Shankar Trikumji Dave to study and report on the establishment of uniform standards of training and qualifications in the indigenous systems of medicine and the regulation of practice of Vaidyas, Hakims and Homoeopaths. During 1957, the Committee gave its recommendations which can be summarised as below: —

(1) The introduction of a uniform system of training in the systems.

(2) The constitution of two councils, similar to the Indian Medical Council, to exercise control over the maintenance of uniform teaching standards in all institutions—one for homoeopathy and one for Ayurved and Unani.

(3) Upgrading of the existing institutions so as to enable them to impart efficient education in these systems.

(4) Preparation of a Pharmacopoeia and a dictionary of Ayurvedic and Unani medicines.

(5) Promotion of post-graduate training and research facilities in all the three systems at suitable places. It also recommended that the institutions should be open also to the graduates of modern medicine.

The recommendations were referred to the State Governments by the Government of India for comments.

On the recommendations of Pandit's Committee (1949-50) the Government of India established during 1952-53 the Central Institute of Research in the Indigenous systems of medicine and the Post-graduate training centre in Ayurveda in 1955-56, at Jamnagar. The former institution has the twin purposes of promoting research and of providing facilities for training of workers in methods of research. During 1956-57, the institute undertook research programmes in the study of Pandu Roga and disorders of its alimentary system and in the identification of crude ayurvedic drugs, plants and herbs and cultivation of medicinal herbs. Mention may also be made that in addition to the Ayurvedic Unit, the Siddha Unit was started during 1956-57. The institute in its 50 bedded hospital and out-patient department treated during the year, on an average 558 patients per day.

The Post-Graduate training centre in Ayurveda was established in collaboration with the then Government of Saurashtra and the Gulab Kunwarba Ayurvedic Society, Jamnagar. The purpose of the institute is, in the words of Rajkumari Amrit Kaur, the then Union Health Minister, "to create a body of true exponents of Ayurveda who are well-versed in their system of medicine and are, at the same time, able to understand and appreciate the implications of modern scientific approach to the study and evaluation of problems". During 1956-57, 25 students on all-India basis were admitted for training in Ayurveda for the two years' course and each student was granted a stipend of Rs. 100 per month and it was also envisaged to admit another batch of 25 students during 1957-58.

During the year 1957, the total number of registered Ayurvedic and Unani practitioners was 10,712 in the 7 States of Mysore, Rajasthan, Andhra Pradesh, Madras, Uttar Pradesh, Assam and Bihar. The total number of teaching institutions in Ayurveda and Unani systems of medicine was 50 (18 Government and 32 private) in the above mentioned seven States and the State of Madhya Pradesh. The total number of hospitals and dispensaries in all the States except Bombay, Assam, Manipur and Pondicherry was 5,469 including village aid centres, and medical health centres.

The State Governments are directly concerned with the education and practice in these systems in their respective jurisdictions, while the Central Government as already mentioned above, is concerned with the promotion of scientific research and post-graduate education. The activities of the States in respect of research, education, relief and registration are briefly summarised below:—

Andhra Pradesh—During 1957, the administrative machinery of the Department of Indian medicine functioning independently under an Ex-officio Director was expanded by the appointment of two officers, Assistant Special Officer (Administration) and Assistant Special Officer (Accounts). Eight main institutions, namely two colleges and two hospitals (for Ayurveda and Unani separately), one Unani Medical Store and one Ayurvedic Pharmacy, a Herbarium Section, a Research Section (Ayurveda and Unani) and the Board of Indian Medicine functioned during the year under review under the Department of Indian Medicine.

Two Boards namely a Board of Indian Medicine (Telengana) and a Board for Ayurved and Homoeopathy (Andhra) functioned to register medical practitioners in these systems and for the control of profession and for advising the Government on important matters referred to them. The latter was established under the Andhra Homoeopathy Medical Practitioners Act, 1955 and the work of registration was not commenced during the year.

During 1957, the Government Ayurvedic College, Hyderabad with staff strength of 181, provides diploma course of Ayurveda Visharada and a new section was opened to impart education of Ayurvedic System of Medicine in Telugu, the local language. The students of the college were taught also in modern medical subjects like surgery, and midwifery. Training in Pharmacy was imparted in the Government Pharmacy of Indian Medicines. The Government Ayurvedic Hospital attached to the Government Ayurvedic College, Hyderabad continued to give services in its out-patient department. During the year 1957, 1,312 patients were treated in the in-door department and 2,59,271 in the out-patients Department.

A scheme of clinical research in Ayurveda was implemented and necessary grants were given for the purpose.

Mention may aslo be made of the Nizam Tibbia College, Hyderabad where training was imparted for 4 years for awarding the degree "Tabah-a-Mustanad". Hakims and Vaids obtaining the qualifications from these two colleges, under the control of the Board of Indian Medicine were entitled for registration by the Board. The registration of unqualified and hereditary medical practitioners was also undertaken by the Board of Indian Medicine after taking a formal test of their medical skill.

During 1957-58 the total expenditure for Ayurvedic and Unani Systems of Medicine was Rs. 16.17 lakhs (approximately) of which Rs. 12.76 lakhs nearly was spent for medical relief. There were 633 hospitals and dispensaries during the year and two teaching institutions.

Assam—The Board of Ayurvedic Medicine, Assam, carried out its usual work of registration of qualified Ayurvedic practitioners and the total number of registered Ayurvedic practitioners was, in all 96.

The only Ayurvedic College, Gauhati continued to function in training candidates in a four years' course for the diploma of Ayurvedic Medicine and Surgery (D.A.M.S.) with the title of "Ayurvedic Shastri".

The budget allocation for Ayurveda and Unani systems of medicine was Rs. 1.88 lakhs out of the total of Rs. 1.99 lakhs.

Ten more Government subsidised Ayurvedic dispensaries were established in the State bringing the total to 26. The Homoeopathic Registration Act was in force in the State and a Board for Homoeopathic system of medicine was constituted by the Government for registration of Homoeopathic practitioners.

Bihar—480 Vaidyas and 60 Hakims were registered in the year 1957 according to the Bihar Development of Ayurvedic and Unani System of Medicines Act, 1951.

The Bihar Development of Homoeopathic System of Medicines Act, 1955 came into force and a Board of Homoeopathic Medicine was also established to take up the registration of homoeopathic practitioners in the State.

A sum of Rs. 23,000 was allotted during the year to the practitioners in the indigenous systems of medicine for distributing free medicines to the public.

There was one Government Ayurvedic College at Patna and 4 private Ayurvedic colleges in addition to one Tibbia College for Unani at Patna which were training candidates leading to the diploma, "G.A.M.S." Ayurved and "G.U.M.S." in Unani. The budget allocation for medical education was Rs. 2.30 lakhs during 1957-58.

Two Pharmacopoeia Committees one for Ayurvedic and one for Unani medicine were constituted by the State Government to prepare standard pharmacopoeia of Ayurvedic and Unani medicines.

107 hospitals and dispensaries for Ayurveda and Unani functioned during the year. Rs. 2.35 lakhs was expended for the Ayuvedic and Unani systems of medicine, of which the major portion was spent for medical education.

Bombay—Active steps were taken by the State of Bombay to encourage the Homoeopathic system of medicine. Under the Bombay Homoeopathic Act, 1951 enforced during 1957 in the State provision existed for persons to register on payment of Rs. 10/- if he possessed any of the qualifications specified in Schedule I of the said Act.

The Board of Homoeopathic system of medicine was constituted to exercise such powers and perform such functions as might be prescribed by the State under the provisions of the Act. The Board of examiners was also appointed with the duties of appointing examiners and conducting examinations and making recommendations to the State Governments in respect of the courses of study.

The facilities for homoeopathic treatment was made available in the Government Homoeopathic Hospital, Sion, Bombay. The bed strength of the hospital was 30 during 1957 and its increase to 100 was under the consideration of the State Government. It was also proposed to start "G.C.E.H." course at the Hospital which was being developed as an All India post-graduate training centre in Homoeopathy. Recognition of conduct I and II "L.C.E.H." examinations was granted to this college.

Kerala—There were 1,061 and 4,063 Ayurvedic practitioners registered in Part A and in Part B respectively and in the Unani System the number of practitioners registered was 31 during the year 1957. The budget allocation for the year 1957-58 was Rs. 23.69 lakhs of which the portion for medical relief was of the order of Rs. 15.23 lakhs.

Madras—At the beginning of 1957 the total number of hospitals and dispensaries of the indigenous systems of medicines was 426, excepting the hospital of Integrated Medicine at Madras and the dispensary at Devakottai in the district of Ramanathapuram. The number of out-door patients treated in all the dispensaries of the indigenous systems of medicine, as far as known was 5,85,390, and at the hospital of Integrated Medicine, 1,493 in-door patients were treated with daily average attendance of 272.

The Madras Registration of Integrated Medical Practitioners Act, 1956 known by the short name Madras Act XXVII was the latest Act for providing registration of practitioners trained in the College of Integrated

Medince. The diplomas awarded for graduates and licentiates of the College were respectively "G.C.I.M." and "L.I.M." The duration of the course for the former was 4½ years of academic study and one year of house-surgeonship (compulsory) and for the latter it was four years of academic study and one year's house-surgeonship (optional).

Madhya Pradesh—Twenty two Ayurvedic dispensaries were added during the year under review. One lakh of rupees was granted for research work in Ayurveda. The staff of new hospital attached to the Government Ayurvedic College, Raipur was strengthened by the addition of six lecturers, three in Ayurveda and three in Allopathy and its bed strength was also raised from 15 to 40. The budget allocation for medical relief was nearly Rs. 19 lakhs out of the total Rs. 20.38 lakhs.

The unification of the acts for the registration of the Ayurvedic and Unani practitioners in the Mahakoshal and Madhya Bharat areas was contemplated.

The Government offered subsidies for meeting expenditure on account of pay of the homoeopathic doctor and the cost of medicines if the local bodies established homoeopathic dispensaries. The Homoeopathic and Bio-chemic Practitioners' Board was reconstituted by the Government. A large State Homoeopathic sanatorium at Nawegaon continued to function during the year. The Government proposed to give also a grant-in-aid to Homoeopathic College, Raipur.

Mysore—There was one college run by the Government of Mysore conferring diplomas of "L.A.M.S."and "L.U.M.S.". The duration of the courses was four years with apprenticeship of nine months. A private College at Bellary, namely, Taranathe Ayurveda Vidyapith was upgraded. During 1957-58 a graduate course in the Ayurvedic system was introduced in the Government College at Mysore. No registration was provided. However, it was under the consideration of the Government. It was also proposed to start research work during the Second Plan.

Three teaching institutions at Hubli, Belgaum and Bijapur were added from the Bombay State to the State with the re-organisation of States in November, 1956 and they provided teaching in Suddha Ayurveda course.

Orissa—2 Ayurvedic hospitals and 150 dispensaries and one Unani subsidised dispensary continued to function and eight new Ayurvedic dispensaries were also sanctioned during the year. A teaching institution viz. "Gopalbandhu Ayurvedic Vidyapith" functioned at Puri and students for "D.A.M.S." were given training and the diploma was awarded by the Orissa Ayurvedic Examination Board. The duration of the course was four years including both Ayurveda and Western systems of medicine. Sixty beds were provided for the teaching hospital attached to it.

There was no legislation to regulate the registration of practitioners of Ayurvedic and Unani systems of medicine.

The Orissa Homoeopathic Act, 1956 came into force during the year and the Orissa State Board of Homoeopathic Medicines was constituted under the Act. The Act provides for registration and examination of students studying homoeopathic medicine and for undertaking the improvement of the system. Three homoeopathic dispensaries continued to function and one was sanctioned during 1957.

Rajasthan—In the two Government post-graduate Ayurvedic Colleges running at Jaipur and Udaipur, training was imparted to physicians, compounders and nurses and during the year 1957-58, 96 candidates were trained.

During 1956-57, 578 dispensaries functioned under the Ayurvedic Department under the overall supervision and control of inspectors appointed for the purpose. The hospitals and dispensaries provided medical aid to 75.59 lakhs of patients during the year. A sum of Rs. 65,000 was provided to subsidise the institutions and medical practitioners. The budget allocation for medical relief was approximately Rs. 22.91 lakhs.

The Indian Medicine Act, 1953 was in force in the State during the year and 1,530 practitioners in Ayurveda and Unani system of medicines were registered and the total number borne on the register was 2,557.

Rajasthan is one of the States in the country which has recognised the indigenous system of medicine. Perhaps, it is the State where the population served by hospitals or dispensaries in Ayurveda was found to be maximum.

Uttar Pradesh—There was a separate section in the Director of Medical and Health Services in the State under the charge of a Deputy Director of Medical and Health Services (Ayurveda) dealing with all matters pertaining to Ayurveda working under the Director of Medical and Health Services. Only on matters of higher policy or in the activities impinging on medical and health administration the Director of Medical and Health Services was to be consulted.

During the year 1957, 497 State Ayurvedic and 90 Unani dispensaries and 393 Ayurvedic and 34 Unani dispensaries under the District Boards continued to function, besides 64 Ayurvedic and 20 Unani Government-subsidised dispensaries. The Municipal Boards had under their control 54 Aurvedic and 4 Unani dispensaries.

The Government made liberal grants to Ayurvedic and Unani Colleges. The State Government made, during 1957, a substantial provision of Rs. 48.27 lakhs for maintenance of Ayurvedic/Unani systems of medicines in the State. Out of the discretionary grant of the Minister of Health, Uttar Pradesh, a grant-in-aid was also sanctioned to deserving institutions and individuals for the development of Ayurvedic and Unani systems of medicines and also for rendering free medical aid to the people. Mention may also be made of the State Ayurvedic College at Lucknow, teaching the Ayurvedic course of B.M.B.S. of 5 years under the Lucknow University. 32 students were admitted during the year 1957 in the first year class of the college. An Ayurvedic Hospital, having a provision of 48 beds for in-door treatment, was also attached to the College.

The State Pharmacy of Ayurvedic and Unani Medicines, Uttar Pradesh manufactured and supplied medicines to 587 State Ayurvedic and Unani dispensaries.

The Board of Indian Medicines, Uttar Pradesh registered 400 Vaidyas and 40 Hakims during the year under review.

There were two affiliated homoeopathic Medical Colleges. The National Homoeopathic Medical College and Hospital, Lucknow was controlled by the Board of Management constituted by the State Government. The Allahabad Medical College and Hospital, Allahabad was, on the other hand, run by private enterprise.

West Bengal—The General Council and State Faculty of Ayurvedic Medicine, West Bengal was established by the statutory orders of the Government with the following functions:—

(1) To register Ayurvedic practitioners;
(2) To hold examinations according to the syllabi prescribed by the Council;
(3) To inspect and affiliate Ayurvedic teaching and charitable institutions.
(4) To control and register Ayurvedic Pharmacies and charitable institutions.

During 1957, three Ayurvedic Colleges affiliated to the General Council and State Faculty of Ayurvedic Medicines, West Bengal, continued to function during the year with their attached hospitals. Total expenditure incurred on medical education in Ayurvedic and Unani system of medicine was one lakh during the year 1957-58.

During the year 1957, 596 Ayurvedic practitioners were registered and total number borne on the register at the end of the year was 7,240.

The homoeopathic education in the State was conducted by the General Council and State Faculty of Homoeopathic Medicine, West Bengal. Five teaching institutions affiliated to the Council trained candidates for a four year diploma course in medicine and surgery (DMS) and the practitioners in homoeopathy were also registered by the Council. Homoeopathic way of treatment was accorded much attention. The homoeopathic hospitals provided relief to suffering patients by way of distribution of medicines among out patients and treatment in their in-door departments. Also Rs. 16.5 lakhs were earmarked during the Second Plan period for carrying out homoeopathic research, testing homoeopathic drugs and preparing the homoeopathic pharmacopoeia. Two *ad-hoc* grants of Rs. 20,000 each were given to two colleges for homoeopathic research.

Delhi—During the year 1957 there were one hospital and 20 dispensaries (Ayurvedic and Unani) with the addition of two new dispensaries under the Municipal Corporation of Delhi. The total number of patients treated was 16,14,870. The bed strength of the hospital was increased to 24. The expenditure for Ayurveda, Unani and Homoeopathy during 1957-58 was Rs. 3.3 lakhs nearly.

The Ayurvedic and Unani Tibbia College founded by the late Hakim Ajmal Khan Sahib in 1921 had, during the year, a hospital attached with 56 beds and 172 students on the role. It had also a research department with 60 beds. A five year degree course prescribed by the Board of Ayurvedic and Unani system of medicine to which the college was affiliated, awards a degree. The hospital had separate Ayurvedic and Unani surgical wards and four dispensaries under it functioned during the year.

The Pharmacy for the preparation of Ayurvedic medicines continued its functions and the compounds of Unani medicines continued to be supplied by the Hamdarad Dawakhana free of cost to the value of Rs. 12,000 per annum.

Homoeopathic dispensaries catered to the needs of those patients who would come for homoeopathic treatment. The total number of patients thus treated was 2,72,597 during the year 1957 as against 2,12,748 in 1956. The daily average of patients who attended these dispensaries varied from 400 to 800.

There was also a proposal of opening the following departments after suitable grants were made available: (1) Infectious Diseases Ward, (2) E.N.T. Ward, (3) Biochemistry Laboratory, (4) Maternity and Gynaecology Ward, (5) Operation Theatre and (6) X-ray Department.

Himachal Pradesh—Although there was no ayurvedic college or institution for the training of vaids, there was, however, a training course for Ayurvedic compounders conducted at the Ayurvedic Pharmacy, Joginder Nagar. 71 Ayurvedic dispensaries functioned during the year under review. It may also be mentioned that the budget allocation for medical relief was Rs. 5.35 lakhs out of the total allocation of Rs. 5.58 lakhs.

CHAPTER XV

ACTIVITIES OF VOLUNTARY ORGANISATIONS AND ASSOCIATIONS

Apart from the Governmental activities towards better preventive and curative services in the country, the voluntary organisations have an important role to play for attaining the said objectives. The high-lights of the services of the voluntary organisations during 1957 are briefly presented below: —

The Indian Red Cross Society:

At the end of the year the society had, on its rolls, 18 State and 403 district and sub-district branches. The total of adult membership was 1,10,692. The most important event for the Red Cross was that the XIX International Red Cross Conference was held in New Delhi in October-November, 1957. The major items discussed were:

(i) Draft rules for protection of civilian population in times of war.

(ii) Prohibition of atomic experiments.

(iii) Red Cross as a factor in world peace.

In the resolutions passed an appeal was made to all countries of the world to eschew war as a means of settling international problems and to transmit the accepted draft rules for the consideration of the Governments.

Magnificent help was rendered by the Society for flood victims in the various parts of the country where there was suffering due to food scarcity, malnutrition and diseases.

At the time of Influenza epidemic Governmental efforts were supplemented by the Society to control it by supply of medicines and other requisites through the various Red Cross Branches.

Medical supplies were rushed to flood victims in Ceylon. Large financial donations were provided for relief work in Yugoslavia, Turkey, Morocco, Thailand, Spain, Indonesia and Bulgaria.

The year 1957 witnessed the intensification of the Society's project for maternal and child welfare services in the backward areas of Tehri-Garhwal district in Uttar Pradesh.

The Red Cross Home for disabled ex-servicemen at Bangalore continued to function during the year under report.

The Junior Red Cross Organisation achieved a record membership of 20.32 lakhs nearly. An International Junior Red Cross Study Centre was organised at Tara Devi in Simla Hills and the event proved highly successful.

The World Red Cross Day was celebrated enthusiastically all over the country with a message by its Chairman, Rajkumari Amrit Kaur. The Chairman, Secretary General and Deputy Secretary were honoured by awarding of medals of merits of the Society by a number of national Red Cross Societies at the time of the International Red Cross conference.

St. John Ambulance Association and Brigade:

During the year over 1.11 lakhs nearly attended courses of Instruction in First-Aid, Home Nursing, Hygiene, Sanitation and Mothercraft and Child Welfare. Out of these, 82,492 qualified for the Association's certificates.

The Tuberculosis Association of India:

The Tuberculosis Association completed its tenth year of existence in 1957. Its activities included T.B. seals-sale campaign, organisation of training courses and other usual activities.

The Eighth T. B. seals-sale campaign was started as usual, on Mahatma Gandhi's birthday and a total of 153.44 lakh seals nearly were distributed to the States. In regard to utilisation of sale proceeds, important recommendations were made by the eighth conference of Secretaries of State T.B. Associations, and of the officials of organisations, entrusted with the work of sales.

The Association conducts training courses for health visitors, social workers, nurses and doctors. So far, 145 health visitors and 6 social workers were trained, besides training of doctors from various States and of students from the Universities of Delhi, Punjab and the College of Nursing, New Delhi.

The statistics of the number of patients treated during 1957 at the three institutions run by the Association was as follows:—

Institutes	No. of out patients treated	No. of in patients	
		Treated	Discharged
1. The Lady Linlithgow Sanatorium, Dharampore	*	631	384
2. The T. B. Hospital, Mehrauli, New Delhi	11,330	620	344
3. The New Delhi T. B. Centre	87,558	*	*

* Figures not available.

The Association continued its activities of assisting qualified and trained personnel in securing suitable employment in T.B. institutions and to create more employment avenues for ex-patients.

During 1957, Rs. 43,000 were spent towards providing assistance to about 120 indigent T.B. patients from the Poor Patients Fund of the Association.

The publication of the Indian Journal of T.B. entered its fifth year in 1957. A documentary film "Seed and Soil" was produced by the Association and after the approval of the Government of India, was released for display.

The Hind Kusht Nivaran Sangh:

The Sangh has the main objective of focussing attention on those aspects of leprosy work that still lack adequate attention. It had 11 branches in the States whose activities covered treatment, survey, propaganda and welfare work.

In December, 1957 the XI All India Leprosy Workers' Conference was held in Gorakhpur. It requested the Government to encourage the programme of rehabilitation.

The Sangh proposed to start a rehabilitation centre in a village not far from the Neyveli Lignite Project in the State of Madras. With the help of a grant by the Government of India many copies of coloured posters were printed for display at Railway Stations where the incidence of Leprosy was high.

The Trained Nurses' Association of India, Delhi:

The year under review witnessed enrolment of 1,500 new members to its rolls. The Association was due to celebrate its Golden Jubilee in 1958.

There were 5,093 members including members of the Midwives' Association and Health Visitors League. In the Student Nurses Association there were 6,669 members.

Two "interest" sections for Nursing Education and Public Health were established and committees, therefore, were appointed.

Under the "Exchange of Nurses Privileges Scheme", the Association sponsored nine nurses for work and study purposes abroad. Four scholarships were also awarded during 1957.

The Association sent a delegation to the International Council of Nurses Congress held in Rome in June, 1957.

The All-India Medical Licentiates' Association, Calcutta.

The Association enrolled 275 new members and three new branches were formed viz., two in West Bengal and one in Assam. The total number of branches of the Association on 31st December, 1957 was 303 with a total membership of 5,168. During the year it continued its endeavours to get the Indian Medical Council Act of 1956 amended. A good deal of progress was achieved to give a practical shape to various important resolutions of the Golden Jubilee session of its annual conference held in 1956.

The Association had, to its credit, considerable contributions to research. The association extended its willing co-operation in all public health activities sponsored either by the Government or other public bodies.

The All-India Blind Relief Society, New Delhi:

The Society continued its service activities at the Model Eye Hospital, New Delhi which had 60 in-door beds. The total number of patients treated were 32,164 of which 1,248 were in-door and the remaining were out-door (new and old). The average daily attendance was 150 patients in the out-door department. Besides, mobile units treated 4,200 patients at different places. Eye relief camps were held with an attendance of 4,287 and 560 operations were conducted. Propaganda was done on the care of eyes through magic-lantern lectures.

The All-India Dental Association, Bombay:

The Association had 30 branches all over India and abroad and membership increased during the year under review. The Annual All India conference was held at Bombay in February, 1957. Besides display of dental films, a refresher course was held for participants in the conference.

Research on dentistry was carried out under the scholarships awarded by M/s. Hindustan Lever Ltd. (Toilet Preparation Division).

The Mission to Lepers Purulia, (West Bengal):

During 1957 extension of out-patient work in villages and towns was given importance and this development continued to grow from Purulia in West Bengal, Faizabad in Uttar Pradesh, Kotham and Karigiri in the States of Bombay and Madras respectively.

Preliminary work in establishing a treatment centre in Nepal for in-patients and out-patients was undertaken by the Mission during the year under review. New hospital wards at Bankura in West Bengal, Ramachandrapuram in Andhra Pradesh and Poladpur in Bombay State were under construction.

Training facilities for mission as well as to non-mission personnel were provided in restorative surgery, physiotherapy diagnosing and treatment of Leprosy.

At the Schieffelin Leprosy Research Sanatorium at Karigiri, research was continued along the following lines: —

(i) Comparison of established methods of treatment of reaction and neuritis.
(ii) Study of the nature of aneamia of lepromatous leprosy.
(iii) Comparison of methods of local treatment of nasal ulceration in patients under sulphone therapy.
(iv) Comparison of the various treatments of certain standard types of foot ulceration.

Help was also rendered to many patients to take their rightful place in society on discharge.

The All-India Women's Conference, New Delhi:

The All-India Women's Conference was an important organisation doing useful social work and providing health care, training facilities and nursing schools and children's centres. The health services comprised of rendering medical aid through mobile vans in remote villages where it was not available, running maternity and child welfare centres and free milk centres to children, pregnant and nursing mothers.

The mobile health vans were run during the year under review by seven branches at Bombay, Delhi, Phaltan, Maharashtra, Kodaikanal, Malabar and Hyderabad. The Calcutta branch was donated a van and started the work.

Besides, the Bombay branch had 8 centres which provided allopathic and ayurvedic treatment. The centre at Sabarmati treated an average of 80 patients daily.

The Bharat Sevak Samaj, New Delhi:

In the field of health the objectives of the Samaj is to get public co-operation for the various health schemes launched by the Government and other bodies to encourage self help and make people conscious of cleanliness and environmental sanitation.

Many camps were organised, where environmental services, health education, talks on hygiene and First-aid were provided.

The Organisation took active interest in providing medical relief at the time of Influenza epidemic. The Union Health Minister gave a grant of Rs. 2,000 towards the running expenses of dispensaries opened by it.

Besides, health and sanitation drives were conducted in many States. Activities therein comprised of opening of Yoga Centres, slum clearance, digging of wells, tanks and compost pits, repair of old roads and construction of new ones.

The Gandhi Memorial Leprosy Foundation:

Nine control units and three control clinics of the Foundation continued their work as in the previous years. The units covered in all 391 villages and 1,93,200 population approximately.

Annual house-to-house survey constituted an important activity in all the centres. The percentage of population examined every year ranged between 70 to 80 of the total covered, while 90 per cent of the population had already been surveyed at least once since the beginning of the survey.

393 new cases were detected, bringing the total to 5,097 from the inception of the work, of which 4,241 cases were registered for treatment. Besides, these persons from the control areas, 13,531 patients also from outside the areas received treatment.

Data available in the units were analysed and the following tentative conclusions were drawn:—

(i) Overwhelming majority of newly detected cases were early cases without clinical nerve involvement and were very likely to escape deformity under regular treatment.

(ii) The degree of bacterial positivity, and thus the infectivity, was remarkably reduced in lepromatious as well as in non-lepromatous cases.

(iii) Greater proportion of indeterminate and tuberculoid and a far less proportion of lepromatous cases were detected than at the beginning of the work in 1950.

The Bardoli unit was converted into a mass education and treatment centre, serving a population of 1,68,700 in 139 villages.

The fourth batch of Leprosy Social Workers completed their 9 months course in July, 1957 and a fresh batch of 17 trainees was admitted in November, 1957.

Apart from the field work, research work, under Dr. V. B. Khanolkar at Bombay and Dr. P. W. Brand at Vellore, was continued.

Financial aids continued to be given to a number of leprosy institutions either as lump sum grants or as salaries of some of the workers or as expenses on drugs.

By the close of the year, the Foundation emerged from its small beginning to its due place of an All-India Organisation stimulating and guiding anti-leprosy work in the centres.

The Indian Medical Association, Delhi:

During the year under report the Association had a membership strength of about 20,000 with 16 States/Territorial branches and 568 local branches.

Eleven Standing and Sub-committees appointed by the Central Council and the Working Committee of the Association functioned during the year. At the annual meeting of the Council, the following resolutions were passed:—

(i) The Central Council urged upon the Union and State Governments to adopt the panel system only wherever the Employees' State Insurance Scheme is implemented in future;

(ii) The Council was of the opinion that a permanent standing committee be formed to observe the implementation of the recommendations of the Second Five Year Plan and make suggestions from time to time;

(iii) The Council was of the opinion that the Indian Medical Association should arrange post-graduate lectures in as many centres as possible to enable medical men to keep abreast of all developments; and

(iv) The Council resolved that the Central and State Governments be requested to include representatives of the Indian Medical Association on committees dealing with medical and public health matters.

The Association participated in the XI International Congress of Dermatology held at Stockholm in July-August, 1957 and in the General Assembly of the World Medical Association in Istambul (Turkey) in September—October, 1957 and in Annual Meeting of the British Medical Association held in New Castle in July, 1957 and the XIV International Conference on T.B. held in January, 1957 at New Delhi.

As in the earlier years, the Association sent 39 doctors in June, 1957 to the U.S.A. and Canada for internships.

The 34th All India Medical Conference was held at Bangalore in December, 1957. A pharmaceutical and medical photographic exhibition was held on the occasion.

Rockefeller Foundation in India:

With the field staff of four Officers, the Foundation continued its usual activities in India during 1957. Mr. LeRoy-R. Allen joined the Foundation in January, 1957 as the representative of the Foundation in India.

Efforts to improve and expand medical education constituted the principal part of its programme. Three fellow-ships and two travel grants were awarded to the King George's Medical College, Lucknow. One fellowship was granted to Seth G.S. Medical College, Bombay. The Christian Medical College, Vellore was given three fellowships and travel grants and a grant-in-aid for the continued development of hospital records system. To the Christian Medical College, Ludhiana, a grant-in-aid was given to promote teaching and investigation in preventive medicine with emphasis to the application of health education techniques to environmental sanitation. The faculty members of the All India Institute of Medical Sciences, New Delhi were awarded a fellowship and two travel grants. Besides, followships were granted, two in the field of Nursing and one each in Maternity and Child Health and Paediatrics.

The School of Tropical Medicine, Calcutta was given a grant-in-aid of $25,000 for the purchase of specialised equipments and two foreign travel grants were awarded in the field of Biological and Medical Research.

The I.C.M.R. and Rockefeller Foundation Fellowship programme came to an end in 1957 by which time 55 fellows had completed training and 41 fellows continued in training.

The India-Harvard Ludhiana study, after completion of pilot projects during 1953—56, was initiated in 1957. The study was helpful not only to gather information on the acceptability and effectiveness of the methods of contraception, but also to throw light on vital registration, cause of death statistics, accidents and infant mortality.

Consequent upon the outbreak of a Kyasanur Forest Disease in South India, a rapid epidemiological study was made and arrangements were made by the Foundation to obtain an initial supply of vaccine from the U.S.A.

Apart from supporting the three programmes i.e. medical education, population studies and virus research, the Foundation had proposals to support library development.

Under the auspices of the Foundation, Dr. David P. Barr, the Professor of Medicine at Cornell, Dr. Ivan L. Bennett, Professor of Medicine at John Hopkins visited and lectured at several institutions in India. Dr. John B. Grant, Professor of Preventive Medicine at Puerto Rico included in his tour some of the past and present co-operative projects of the Foundations at Vellore, Calcutta, Lucknow, Delhi and Bombay.

CHAPTER XVI

HEALTH CONFERENCES AND INTERNATIONAL AID

Health Conferences:

During 1957 several international conferences on health subjects were held in which the Indian delegations participated. A brief description of conferences is set out below:—

I. The X World Health Assembly met in Geneva in May, 1957. A delegation of five members headed by Sir Arcot Lakshamanaswamy Mudaliar, Vice-Chancellor of the Madras University, attended the assembly on behalf of the Government of India.

The important subjects discussed were, *inter-alia,* the eradication of Malaria, epidemiology of Cancer, peaceful uses of Atomic Energy, relations with UNICEF and role of hospitals in the Public Health Programme.

II. During September, 1957 the XX Session of the W.H.O. Regional Committee for South-East Asia was held in Rangoon. Representatives of nine countries, including those of Portugal and Thailand attended the meeting. The Director of the All-India Institute of Hygiene and Public Health, Calcutta attended the meeting as member and Assistant Director General (Public Health) of the Directorate General of Health Services, New Delhi as alternate.

The Inter country meetings on Malaria was introduced for discussion by the chief delegate of India and several countries supported in principle, the W.H.O. was requested to organise such meetings .

The Committee felt the need to continue the services of indigenous midwives in most countries of the region for some more years to come because of the lack of any other alternative to be offered.

The technical topic "How can Health education of the public be effectively developed in South-East Asia" was discussed.

III. The IV Session of the Committee on International Quarantine was held in Geneva in October, 1957. The Director General of Health Services attended the conference.

IV. In September, 1957 the International Dental Congress was held in Rome. The Indian delegation consisted of the Hony. Dental Adviser of the Ministry of Health and the Principal of the Dental College and Hospital, Calcutta.

V. The XI International Congress of Dermatologists was held at Stockholm in August, 1957. The delegates on behalf of the Government of India were the Senior Hony. Dermatologist in the JJ. Group of Hospitals, Bombay and the Assistant Professor of Medicine of the Medical College, Calcutta and Hony. Skin Specialist of the Irwin Hospital, New Delhi.

VI. A Seminar was conducted on the Rehabilitation of the Orthopaedically handicapped in Indonesia in August-September, 1957. The Director of Occupational Therapy School and Centre, Bombay attended the seminar on behalf of the Government of India.

VII. A meeting of the International Union against T. B. at Paris and of the Study Group on Chemotherapy at Copenhagan were held in September-October, 1957. The meetings were attended by the T.B. Adviser of the Government of India. The main question discussed was whether "Isoniazid" (I.N.H.) could be held as a prophylactic against T. B. on a mass scale especially in countries where T. B. morbidity is high and where the means for its control are meagre. It was decided that it was too early to recommend the use of I.N.H. on a mass programme for T. B. control and the expansion of domiciliary service through clinics was justifiable.

VIII. The representatives of the Government of India, Burma and W.H.O. met in January, 1957 at Imphal (Manipur) to consider co-ordination of anti-malaria activities on either side of Indo-Burma border. The Director of the Malaria Institute of India, Delhi along with two Deputy Directors, attended the conference.

IX. In November, 1957, the Expert Committee of the W.H.O. meeting on Air Pollution took place in Geneva. The Professor of Physiological and Industrial Hygiene of the All-India Institute of Hygiene and Public Health, Calcutta, attended the meeting. Research work carried out in India on air pollution was explained in detail along with its special problems peculiar to the country.

In the report of the Committee special requirements for public health measures in air pollution in tropical countries were presented.

X. The IV International Congress in Nutrition was held in Paris in August, 1957. The Associate Professor of Bio-chemistry and Nutrition of the All-India Institute of Hygiene and Public Health, Calcutta, attended the Congress.

XI. The XIV International T.B. Conference was held in New Delhi in January, 1957. Over 850 specialists attended the Conference. The T. B. Association of India played the host. The scientific session discussed various problems which were, *inter-alia,* (i) Incidence of T.B. in economically under-developed countries and the methods of control, (ii) Clinical and epidemiological results of ambulatory Chemotherapy in Pulmonary T.B., (iii) Diagonostic and biological problems of I.N.H.—resistant tubercle bacilli.

International Aid to health programmes in India:

India is a member of the World Health Organisation since its inception in 1948. The W.H.O. has been rendering much valuable assistance in executing the various health programmes in India. During the year, 1957 the country received assistance worth U.S. $809,415.

The Government of India, in its turn, contributed U.S. $368,970 to the W.H.O. The organisation provided fellowships in different subjects to Indian Nationals and they were trained in advanced countries vide Table No. 55. Mention may also be made of the two refresher courses for matrons and ward sisters organised during the year by the Government of India with assistance from W.H.O. at the Colleges of Nursing at New Delhi and Patna. The W.H.O. assisted projects have been largely integrated with the national development plans having broad social and economic implications. The range of subjects for which the assistance was given by the W.H.O. in India was very wide and covered health education, training, general improvement of maternity and child welfare services, health statistics, research, epidemiology and control of communicable disease like T.B., Trachoma, Plague and the development of Paediatrics Departments. The list of these projects for which the assistance was provided is as under:—

(1) Maternal and Child Health Department, All-India Institute of Hygiene and Public Health, Calcutta.
(2) Nursing, Ludhiana.
(3) Tuberculosis Control and Training Centre, Nagpur.
(4) Tuberculosis Control and Training Centre, Hyderabad
(5) Tuberculosis Chemotherapy Centre, Madras.
(6) Maternal and Child Health/Nursing, West Bengal.
(7) Maternal and Child Health/Nursing, Bihar.
(8) Maternal and Child Health/Nursing, Uttar Pradesh.
(9) Maternal and Child Health/Nursing, Kerala.
(10) Post-Graduate Course for Mid-wife Tutors, College of Nursing, New Delhi.
(11) Assistance to the All-India Institute of Mental Health, Bangalore.
(12) Domiciliary Nursing and Mid-wifery, Lady Hardinge Medical College, Hospital, New Delhi.
(13) Maternal and Child Health/Nursing Education, Mysore.
(14) Public Health Engineering, University of Madras.
(15) Maternal and Child Health/Nursing, Nagpur.
(16) Maternal and Child Health/Nursing, Bombay.
(17) Maternal and Child Health/Public Health Training, Saurashtra.
(18) Vital and Health Statistics, Nagpur.
(19) Professors of Preventive and Social Medicine.
(20) Public Health/Nursing Education, Andhra Pradesh.
(21) Rural Health/Nursing Education, Assam.
(22) Health Education, Singur.
(23) Environmental Sanitation, Kerala.
(24) Refresher Courses for Nurses, Patna and New Delhi.
(25) Nursing Education.
(26) Trachoma Pilot Project.
(27) National Tuberculosis Programme.
(28) Assistance to Selected Paediatrics and Obstetrics Departments.
(29) Nursing Advisers to States.
(30) Malaria Institute of India, Delhi.
(31) Health Education—All-India Institute of Hygiene and Public Health, Calcutta.
(32) Assistance to Up-graded Department of Paediatrics, Madras Medical College.
(33) Tuberculosis National Training Courses.
(34) Central Drug Research Institute, Lucknow.
(35) Paediatrics Programme, Visakhapatnam.

The W.H.O. provided a number of international experts to work in different projects during the year. Table No. 56 presents the detailed information in this respect.

U.N.I.C.E.F.

The UNICEF is a specialised agency of the U.N.O. offering assistance for the health programmes for expectant and nursing mothers and children. Normally the assistance would be in the form of equipment and supplies. The organisation allocated U.S. $4,233,257 during the year 1957 for the following programmes:—(1) Community Development, (2) Tuberculosis Control, (3) Paediatrics training and services in Madras and Andhra Pradesh, (4) Goitre Control, (5) School and pre-school feeding, (6) B.C.G., (7) Milk Feeding Project, Ahmedabad and (8) Penicillin Plant. The Government of India contributed to the UNICEF, Rs. 16 lakhs during 1957. The Organisation provided also assistance for 46 schools for nurses and mid-wives in India during the year under review.

Mention may also be made of the three refresher courses for sister tutors and nurses conducted by the Government of India with its assistance.

Besides, the assistance given by these two organisations training facilities were also offered to the Indian nationals in medical and allied subjects under other technical aid schemes viz., Point Four Programme, Colombo Plan and the Rockefeller Foundation. These training facilities were given in the subjects in which the facilities were not easily available in India or the standard of training was higher in the outside countries than in India. During 1957, 10 candidates were awarded fellowships under the Colombo Plan in different subjects for higher training in the United Kingdom and Canada. Under the Point Four Programme one fellowship was awarded. Similarly under the T.C.M. three fellowships were awarded.

APPENDICES

Table No. 1

Birth rates in different States' Union Territories in India during 1957

	Birth rate per 1,000 of population						No. of males born per 100 female children		Percentage omission of births during 1957	Highest birth rate		Lowest birth rate	
	Rural		Urban		Total								
	1957	1956	1957	1956	1957	1956	1957	1956		Month	Rate	Month	Rate
I· *States.*													
1. Andhra Pradesh	†	†	†	†	19·31	27·40	107	107	2·70	July	20·61	February	12·46
2. Assam	†	†	†	†	9·56	10·20	†	106	†	November	9·35	February	7·94
3. Bihar	†	†	†	†	13·70	†	†	†	†	†	†	†	†
4. Bombay	†	†	†	†	28·80	31.70	109	108	†	December	†	February	†
5. Jammu & Kashmir ..	†	†	†	†	†	†	†	†	†	†	†	†	†
6. Kerala	22·73	21·50	34·29	36·80	23·84	23·00	106	107	†	†	†	†	†
7. Madhya Pradesh ..	†	†	†	†	12·44	†	†	†	†	†	†	†	†
8. Madras	24·20	24·40	33·96	38·50	26·74	27·60	107	106	2·14	July	25·21	February	17·36
9. Mysore*	16·30	†	24·60	†	18·80	19·50	104	104	†	December	19·58	February	11·96
10. Orissa	†	†	†	†	†	†	†	†	†	†	†	†	†
11. Punjab	†	†	†	†	39·61	39·42	114	114	†	October	47·72	June	33·14
12. Rajasthan	13·5	13·0	15·50	14·80	†	13·40	122	119	†	December	†	February	
13. Uttar Pradesh ..	12·78	13·07	27·36	29·66	14·82	15·42	122	121	0·83	December	14·12	February	10·06
14. West Bengal ..	†	†	†	†	20·90	†	109	109	†	November	†	July	†
II. *Union Territories*													
1. Andaman & Nicobar Islands	†	†	†	†	21·45	†	108	†	†	†	†	†	†
2. Delhi	†	†	†	†	†	†	†	†	†	†	†	†	†
3. Himachal Pradesh ..	†	†	†	†	17·39	21·70	112	112	14·75	†	†	†	†
4. Manipur	†	†	†	†	9·26	8·20	128	125	†	April	8·39	February	7·90
5. Tripura	†	†	†	†	†	†	†	†	†	†	†	†	†
6. Pondicherry	†	†	†	†	†	†	†	†	†	†	†	†	†

Note :—* Figures relate to old Mysore State. † Information not available.

Table No. 2

Death rates in different States/Union Territories in India during 1957

	Death rate per 1,000 of population						Percentage omission of deaths during 1957
	Rural		Urban		Total		
	1957	1956	1957	1956	1957	1956	
I. *States*							
1. Andhra Pradesh	†	14·20	†	11·80	10·51	13·70	1·92
2. Assam	†	4·60	†	10·60	4·16	4·20	†
3. Bihar	†	†	†	†	7·50	†	†
4. Bombay	†	†	†	†	15·00	14·20	†
5. Jammu & Kashmir	†	†	†	†	†	†	†
6. Kerala	9·25	7·00	12·57	11·40	9·57	7·40	†
7. Madhya Pradesh	†		†	†	7·40	†	†
8. Madras	13·72	13·30	15·62	14·44	14·22	13·60	0·043
9. Mysore*	8·10	†	8·60	†	8·80	7·80	†
10. Orissa	†	†	†	†	†	†	†
11. Punjab	15·00	†	8·75	†	13·77	14·60	†
12. Rajasthan	6·90	6·20	10·40	9·10	†	6·80	†
13. Uttar Pradesh	7·89	7·93	11·93	12·46	8·46	8·60	1·24
14. West Bengal	†	†	†	†	9·80	†	†
II. *Union Territories*							
1. Andaman & Nicobar Islands ..	†	†	†	†	6·75	†	†
2. Delhi	†	†	†	†	†	†	†
3. Himachal Pradesh	†	†	†	†	7·71	9·70	7·27
4. Manipur	†	†	†	†	4·11	2·70	†
5. Tripura	†	†	†	†	†	†	†
6. Pondicherry	†	†	†	†	†	†	†

Note :—* Figures relate to old Mysore State. † Information not available.

Table No. 3

Percentage of deaths among total deaths in different age-groups in India during the years 1956 *and* 1957

Categories	Years	Under one year	1—4 years	5—9 years	10—14 years	15—19 years	20—29 years	30—39 years	40—49 years	50—59 years	60 years and over
Persons	1956	21·58	18·81	5·04	3·63	3·67	6·19	6·40	7·03	7·93	20·42
Males		24·14	15·04	5·13	3·28	3·43	5·32	6·21	7·68	8·83	20·95
Females		19·02	22·58	4·95	3·98	3·90	7·06	6·60	6·38	7·00	19·90
Persons	1957	20·08	19·61	5·63	3·38	3·58	6·59	6·78	7·42	8·57	23·10
Males		20·53	19·20	5·61	3·32	3·28	5·50	6·40	8·02	9·32	22·13
Females		19·59	21·03	5·66	3·42	3·89	7·59	7·16	6·81	8·57	24·08

Table No. 4

Percentage of deaths to total deaths from different causes in different States of India during 1957

	Cholera	Smallpox	Plague	Fevers	Dysentery and Diarrhoea	Respiratory Diseases	Other causes
I. *States*							
1. Andhra Pradesh	1·05	2·57	—	36·19	4·67	6·38	49·10
2. Assam	0·09	0·16	—	†	7·69	†	†
3. Bihar	3·73	1·87	—	†	0·67	0·93	12·40
4. Bombay	0·92	1·22	—	80·41	4·74	†	†
5. Jammu & Kashmir	†	†	†	†	†	†	†
6. Kerala	—	0·42	—	11·15	6·82	9·86	72·40
7. Madhya Pradesh	1·76	3·92	—	57·16	2·70	6·62	27·48
8. Madras	0·63	0·84	—	15·89	7·68	10·19	64·75
9. Mysore*	0·12	1·65	0·04	20·41	11·04	6·03	61·71
10. Orissa	1·26	2·00	—	59·80	0·74	4·60	26·23
11. Punjab	—	0·08	—	69·06	2·78	15·20	13·04
12. Rajasthan	†	†	†	†	†	†	†
13. Uttar Pradesh	2·91	1·24	0·01	64·50	4·65	7·95	18·70
14. West Bengal	1·60	3·50	—	8·73	†	†	†
II. *Union Territories*							
1. Andaman and Nicobar Islands ..	†	†	†	†	†	†	†
2. Delhi	†	†	†	†	†	†	†
3. Himachal Pradesh	—	0·02	—	†	6·77	12·09	†
4. Manipur	†	†	†	†	†	†	†
5. Tripura	†	†	†	†	†	†	†
6. Pondicherry	†	†	†	†	†	†	†

Note :—* Figures relate to old Mysore State. † Information not available. — Nil information.

Table No. 5

Infant Maternity Rates in India

I. States/Union Territories 1	Years 2	Rate per mille of live births 3
1. Andhra Pradesh	1953	129·2
	1954	122·8
	1955	123·0
	1956	123·6
	1957	93·0
2. Assam	1953	†
	1954	76·3
	1955	85·0
	1956	81·3
	1957	91·0
3. Bihar	1953	70·6
	1954	78·0
	1955	†
	1956	60·3
	1957	61·8
4. Bombay	1953	117·6
	1954	116·3
	1955	100·0
	1956	107·0
	1957	106·0
5. Delhi	1953	89·0
	1954	81·3
	1955	77·0
	1956	79·3
	1957	†
6. Kerala	1953	39·5
	1954	37·6
	1955	40·0
	1956	50·7
	1957	71·0
7. Madhya Pradesh	1953	169·2
	1954	149·6
	1955	†
	1956	140·3
	1957	137·3
8. Madras	1953	113·8
	1954	100·7
	1955	103·0
	1956	117·0
	1957	111·0
9. Mysore	1953	78·9
	1954	23·0
	1955	72·0
	1956	86·2
	1957	61·0
10. Orissa	1953	153·3
	1954	133·0
	1955	†
	1956	139·0
	1957	174·8

Note :—† Information not available.

Table No. 5—contd.

1	2	3
11. Punjab	1953	133·1
	1954	112·9
	1955	106·0
	1956	113·1
	1957	100·0
12. Uttar Pradesh	1953	121·6
	1954	110·4
	1955	99·0
	1956	105·0
	1957	97·0
13. West Bengal	1953	96·1
	1954	86·9
	1955	79·0
	1956	80·0
	1957	86·8
14. Himachal Pradesh	1953	103·4
	1954	77·1
	1955	46·0
	1956	77·2
	1957	82·8
15. Manipur	1953	†
	1954	†
	1955	†
	1956	12·5
	1957	†
16. Tripura	1953	†
	1954	†
	1955	42·0
	1956	39·3
	1957	†
17. Andaman & Nicobar Islands	1953	34·1
	1954	44·0
	1955	63·0
	1956	40·6
	1957	50·0
INDIA	1953	118·0
	1954	109·6
	1955	100·0
	1956	102·0
	1957	98·0

Note —† Information not available.

Table No. 6

Percentage of deaths and death rates due to Cholera in different States during the years 1956 and 1957

States/Union Territories	Years	Percentage of deaths due to cholera among total deaths	Death rates per million of population
1. Andhra Pradesh	1957	1·08	170
	1956	0·55	76
2 Assam	1957	0·11	5
	1956	0·19	9
3. Bihar	1957	3·70	290
	1956	†	†
4. Bombay	1957	0·86	130
	1956	0·39	47
5. Kerala	1957	—	—
	1956	—	—
6. Madhya Pradesh	1957	1·86	130
	1956	†	†
7. Madras	1957	0·63	90
	1956	0·001	0·20
8. Mysore	1957	0·10	10
	1956	0·12	10
9. Orissa	1957	1·26	300
	1956	2·35	400
10. Punjab	1957	—	—
	1956	—	—
11. Rajasthan	1957	—	—
	1956	—	—
12. Uttar Pradesh	1957	2·40	200
	1956	0·70	60
13. West Bengal	1957	1·00	10
	1956	2·27	20
14. Jammu & Kashmir	1957	†	†
	1956	†	†
15. Andaman & Nicobar Islands	1957	—	—
	1956	—	—
16. Delhi	1957	†	†
	1956	—	—
17. Himachal Pradesh	1957	—	—
	1956	—	—
18. Manipur	1957	—	—
	1956	—	—
19. Tripura	1957	—	—
	1956	—	—
20. Pondicherry	1957	†	†
	1956	†	†
INDIA	1957	1·37	200
	1956	0·56	60
	1955	0·29	30
	1954	0·53	70
	1953	2·46	400
	1952	1·46	190

Note :—† Information not available.

— Nil information.

Table No. 7

Cholera in different States of India during 1957

	Years	No. of districts affected	No. of villages affected	Cases notified	Deaths	Case fatality rates	Peak months	Inoculations performed
I. *States*								
1. Andhra Pradesh ..	.. 1957	†	1,202	11,146	4,557	40·90	August	2,390,272
	1956	†	994	†	1,623	†	December	2,013,830
2. Assam	.. 1957	†	†	252	39	15·40	October	762,311
	1956	†	†	†	82	†	June	709,370
3. Bihar	.. 1957	14	1,132	13,525	5,683	42·01	August	12,212,796
	1956	†	1,317	†	†	†	†	10,740,042
4. Bombay ..	.. 1957	†	873	†	7,086	†	July	5,000,000
	1956	†	1,656	9,900	4,689	4·10	†	4,234,700
5. Jammu & Kashmir	.. 1957	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†
6. Kerala	.. 1957	—	—	—	—	—	—	38,847
	1956	—	—	—	1	—	—	21,686
7. Madhya Pradesh ..	.. 1957	20	2,961	4,631	2,235	48·20	June	2,589,153
	1956	†	393	†	†	†	†	†
8. Madras	.. 1957	†	1,959	†	2,930	†	†	2,356,667
	1956	†	—	†	6	†	†	949,209
9. Mysore	.. 1957	†	†	†	125	†	†	†
	1956	†	†	†	116	†	†	†
10. Orissa	.. 1957	12	1,313	4,693	2,233	†	August	1,739,111
	1956	†	2,339	†	5,487	†	August	2,383,894
11. Punjab	.. 1957	—	—	—	—	—	—	226,655
	1956	1	—	33	10	30·30	†	381,681
12. Rajasthan ..	.. 1957	—	—	—	1	—	—	68,140
	1956	—	—	—	—	—	—	66,404
13. Uttar Pradesh ..	.. 1957	†	3,054	†	16,648	†	August	7,485,923
	1956	†	586	†	3,909	†	September	2,976,210
14. West Bengal ..	.. 1957	†	1,195	†	4,313	†	May	4,883,265
	1956	†	1,169	†	4,148	†	May	6,673,814

Union Territories								
1. Andaman & Nicobar Islands	1957	—	—	—	—	—	—	2,305
	1956	—	—	—	—	—	—	2,727
2. Delhi	1957	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†
3. Himachal Pradesh ..	1957	—	—	—	—	—	—	7,846
	1956	—	—	—	—	—	—	7,620
4. Manipur	1957	—	—	—	—	—	—	29,116
	1956	—	—	—	—	—	—	66,915
5. Tripura	1957	—	—	—	—	—	—	—
	1956	—	—	—	—	—	—	—
6. Pondicherry	1957	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†

Note :—† Information not available.

— Nil information.

Table No. 8

Small-pox in different States of India during 1957

1	Years 2	No. of distts. affected 3	No. of villages affected 4	Cases notified 5	Deaths 6	Case fatality rates 7	Peak months 8	Primary vaccinations performed 9	Re-vaccinations performed 10	Total 11
I. *States*										
1. Andhra Pradesh ..	1957	21	2,840	20,588	4,573	22·2	March	1,397,684	4,732,855	6,130,539
	1956	†	†	†	2,240	†	June	1,181,391	3,454,949	4,636,340
2. Assam	1957	†	†	551	67	12·1	November	445,902	1,319,911	1,765,813
	1956	5	†	†	109	†	†	239,930	489,030	728,960
3. Bihar	1957	15	311	3,124	847	27·1	December	1,607,414	7,681,514	9,288,958
	1956	15	314	2,712	482	27·8	†	1,296,754	7,728,585	9,025,339
4. Bombay ..	1957	†	†	†	9,389	†	March	1,260,736	5,199,322	6,450,058
	1956	43	†	†	5,537	†	March	†	†	†
5. Jammu & Kashmir	1957	†	†	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†	†	†
6. Kerala	1957	8	229	1,601	601	†	February	701,502	2,866,924	3,568,924
	1956	†	†	†	329	†	October	†	†	†
7. Madhya Pradesh ..	1957	32	†	5,266	4,766	90·5	December	701,343	664,475	1,365,818
	1956	43	†	†	1,450	†	†	684,664	513,673	1,198,337
8. Madras	1957	†	†	11,427	3,893	34·0	†	1,152,310	5,649,983	6,802,293
	1956	†	†	†	1,129	†	August	1,067,402	3,429,417	4,496,819
9. Mysore* ..	1957	11	†	†	1,606	†	†	737,631	2,290,296	3,027,927
	1956	†	†	†	532	†	†	404,079	809,196	1,213,275
10. Orissa	1957	13	2,027	11,478	3,162	27·60	July	637,986	1,683,924	2,321,910
	1956	†	†	†	†	†	†	†	†	†
11. Punjab	1957	18	161	1,192	199	16·7	May	670,999	2,256,901	2,927,900
	1956	†	†	782	187	23·9	†	741,891	1,904,258	2,646,149
12. Rajasthan ..	1957	25	†	4,801	1,471	30·6	March	526,843	590,067	1,116,910
	1956	26	468	4,071	1,435	35·0	March	551,458	394,014	945,472
13. Uttar Pradesh ..	1957	†	2,285	†	7,103	†	June	1,900,589	2,102,245	4,002,834
	1956	†	1,468	†	5,742	†	June	1,782,407	2,057,227	3,837,634
14. West Bengal ..	1957	†	†	†	9,377	†	April	1,609,930	11,094,204	12,704,134
	1956	†	†	†	1,185	†	†	1,078,223	7,595,078	8,673,310

II. *Union Territories*

1. Andaman & Nicobar Islands	1957	—	—	—	—	—	—	2,256	2,755	5,011
	1956	†	†	†	†	†	†	†	†	†
2. Delhi	1957	†	†	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†	†	†
3. Himachal Pradesh	1957	4	5	19	2	10·53	July	38,274	116,165	154,439
	1956	3	†	15	4	26·70	†	†	†	†
4. Manipur	1957	1	2	44	9	20·50	December	33,408	44,423	77,831
	1956	1	1	12	3	25·00	February	†	†	†
5. Tripura	1957	†	†	†	†	†	†	†	†	†
	1956	†	†	†	†	†	†	†	†	†
6. Pondicherry ..	1957	†	†	†	†	†	March-April	10,784	39,565	50,349
	1956	†	†	†	†	†	†	†	†	†

Note:—†Not available.

*Old Mysore State.

—Nil information.

Table No. 9

Malaria in different States of India during 1957

I. State	Deaths due to fevers including Malria		Deaths due to Malaria		Percentage of Malaria deaths among deaths due to fevers	
	1957	1956	1957	1956	1957	1956
1. Andhra Pradesh	133,656	99,422	10,528	6,126	7·90	6·2
2. Assam	22,992	22,992	5,797	5,955	25·21	25·9
3. Bihar	†	†	†	†	†	†
4. Bombay	†	†	61,178	72,687	†	†
5. Jammu & Kashmir	†	†	†	†	†	†
6. Kerala	15,976	13,179	†	†	†	†
7. Madhya Pradesh	†	†	48	†	†	†
8. Madras	71,904	67,847	958	1,603	1·3	3·0
9. Mysore	†	28,309	†	11,578	†	40·9
10. Orissa	†	†	†	†	†	†
11. Punjab	155,164	166,613	1,487	†	0·96	†
12. Rajasthan	6,361	†	1,412	†	22·90	†
13. Uttar Pradesh	368,935	392,893	56,541	76,178	15·40	19·40
14. West Bengal	†	89,423	†	10,848	†	12·1
II. *Union Territories*						
1. Andaman & Nicobar Islands	35	52	9	9	25·70	17·3
2. Delhi	†	3,049	†	84	†	2·75
3. Himachal Pradesh	5,872	7,081	†	†	†	†
4. Manipur	3,441	1,020	65	108	1·83	71·1
5. Tripura	†	1,644	†	794	†	48·3
6. Pondicherry	834	†	9	†	1·00	†

Note :—† Information not available.

Table No. 10

Percentage of deaths and death rates per mille due to Dysentery and Diarrhoea in different States of India.

State	Year	Percentage of total deaths due to Dysentery & Diarrhoea	Death rate per mille
1	2	3	4
1. Andhra Pradesh	1953	7·1	1·2
	1954	7·1	1·0
	1955	†	†
	1956	5·3	0·7
	1957	4·7	0·5
2. Assam	1953	6·2	0·4
	1954	8·4	0·6
	1955	7·8	0·4
	1956	8·4	0·4
	1957	7·7	0·3
3. Bihar	1953	0·7	0·1
	1954	0·7	0·1
	1955	†	†
	1956	0·5	0·04
	1957	0·7	0·1
4. Bombay	1953	3·8	0·7
	1954	4·0	0·6
	1955	4·2	0·6
	1956	3·8	0·6
	1957	4·7	†
5. Delhi	1953	8·5	0·8
	1954	7·1	0·6
	1955	5·9	0·5
	1956	6·0	0·5
	1957	†	†
6. Kerala	1953	6·4	0·4
	1954	4·9	0·3
	1955	5·6	0·4
	1956	5·0	0·4
	1957	6·8	†
7. Madhya Pradesh	1953	3·6	0·7
	1954	4·9	0·9
	1955	†	†
	1956	2·5	0·4
	1957	2·7	†
8. Madras	1953	8·2	1·3
	1954	7·1	1·0
	1955	6·9	1·0
	1956	7·6	1·0
	1957	7·7	1·1
9. Mysore	1953	11·1	0·9
	1954	9·8	0·9
	1955	8·9	0·8
	1956	9·9	0·8
	1957	11·0	27·0

†Not available

Table No. 10—contd.

1	2	3	4
10. Orissa	1953	5·4	1·7
	1954	5·2	1·4
	1955	†	†
	1956	†	†
	1957	6·6	1·4
11. Punjab	1953	2·0	0·4
	1954	2·3	0·3
	1955	2·5	0·3
	1956	3·1	0·4
	1957	2·8	0·4
12. Uttar Pradesh	1953	4·9	0·5
	1954	4·3	0·4
	1955	4·0	0·3
	1956	4·3	0·4
	1957	4·7	0·4
13. West Bengal	1953	6·7	0·7
	1954	2·2	0·5
	1955	6·8	0·6
	1956	6·8	0·6
	1957	4·7	†
14. Rajasthan	1953	6·9	0·1
	1954	6·3	0·1
	1955	†	†
	1956	6·5	†
	1957	†	†
15. Manipur	1953	5·5	0·2
	1954	2·5	0·1
	1955	†	†
	1956	6·8	0·2
	1957	†	†
16. Tripura	1953	20·2	0·01
	1954	†	†
	1955	4·9	0·2
	1956	4·3	0·2
	1957	†	†

Note:—†Information not available.

Table No. 11

Cases and deaths due to Influenza recorded in various States of India during the year 1957

I. States		Cases	Deaths	Deaths per million of cases	Mortality rate per million of population
1. Andhra Pradesh	..	244,982	28	114,30	0·8[illegible]
2. Assam ..	..	191,058	7	36·60	0·69
3. Bihar	..	155,146	18	116·02	0·44
4. Bombay ..	..	1,282,459	1,408	1,097·89	26·12
5. Jammu & Kashmir	..	1,963	—	—	—
6. Kerala ..	..	289,265	9	31·11	0 58
7. Madhya Pradesh	..	245,471	13	52·96	0·47
8. Madras ..	..	610,262	75	122·90	2·29
9. Mysore ..	..	416,275	70	168·16	3·22
10. Orissa ..	..	151,401	12	79·26	0·79
11. Punjab ..	..	120,805	9	74·50	0·53
12. Rajasthan ..	..	70,091	5	71·33	0·29
13. Uttar Pradesh ..	..	268 787	65	241·82	0·96
14. West Bengal ..	..	287,115	442	153·94	15·53
II. *Union Territories*					
1. Andaman & Nicobar Islands		674	—	—	—
2. Delhi	..	97,659	18	184·3	8·49
3. Himachal Pradesh	..	13,285	4	301·1	3·51
4. Manipur ..	..	8,105	—	—	—
5. Tripura ..	..	6,252	—	—	—
6. Pondicherry ..	..	6,707	—	—	—
Total	..	4,467,762	2,185	489·00	5·57

Note:— —Nil information.

Table No. 12

Number of students examined and break-up of cases of diseases of the defectives

I. States	Whether system of medical examination exists or not	No. of students	Number examined	Number found defective due to								Total
	Yes/No			Mal-nutrition	Bad-teeth	Tonsils	Eye defects	Skin disease	R.D.	Enlarged spleen	Others	
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Andhra Pradesh	Yes	†	48,733*	†	†	†	†	†	†	†	†	†
2. Assam	No	†	†	†	†	†	†	†	†	†	†	†
3. Bihar	Yes	263,222	1,164	19	151	232	22	—	5	†	51	480
4. Bombay	†	†	†	†	†	†	†	†	†	†	†	†
5. Jammu and Kashmir	†	†	†	†	†	†	†	†	†	†	†	†
6. Kerala	†	†	†	†	†	†	†	†	†	†	†	†
7. Madhya Pradesh	†	†	†	†	†	†	†	†	†	†	†	†
8. Madras	†	†	†	†	†	†	†	†	†	†	†	†
9. Mysore	†	†	†	†	†	†	†	†	†	†	†	†
10. Orissa	Yes	†	5,816	438	309	465	—	—	—	27	259	1,498
11. Punjab	Yes	†	43,563@	†	†	†	†	†	†	†	†	7,677
12. Rajasthan	Yes	†	†	†	†	†	†	†	†	†	†	†
13. Uttar Pradesh	Yes	3,419,933	321,229	†	†	†	†	†	†	†	†	†
14. West Bengal	†	†	†	†	†	†	†	†	†	†	†	†
II. *Union Territories*												
1. Andaman & Nicobar Islands ..	†	†	†	†	†	†	†	†	†	†	†	†
2. Delhi	†	†	†	†	†	†	†	†	†	†	†	†
3. Himachal Pradesh	Yes	†	17,874	942	734	268	350	328	90	48	86	2,846
4. Manipur	Yes	†	7,016	200	70	30	15	350	106	2	230	1,003
5. Tripura	†	†	†	†	†	†	†	†	†	†	†	†
6. Pondicherry	†	†	†	†	†	†	†	†	†	†	†	†

NOTE:—*Figures relate to Hyderabad and Secunderabad Cities only.
@Figures relate to rural areas.
R.D.—Respiratory diseases.
†Information not available.
—Nil information.

Table No. 13

Authorised accommodation in Jails of the various States in India during the year 1957

I. States	Average daily population		Authorised accommodation		No. of prisoners per 100 units of authorised accommodation	
	1957	1956	1957	1956	1957	1956
1. Andhra Pradesh	2,715*	7,894	2,181	7,926	124·4*	100·0
2. Assam	4,478	4,399	4,155	3,984	114·7	110·4
3. Bihar	17,450	†	16,176	†	107·9	†
4. Bombay	20,326	17,059	21,392	21,050	95·02	82·54
5. Jammu and Kashmir	†	†	†	†	†	†
6. Kerala	2,131	40	3,943	4,750	54·0	0·9
7. Madhya Pradesh	†	†	†	†	†	†
8. Madras	13,395	15,015	14,453	14,548	92·7	80·6
9. Mysore	3,430	4,911	5,568	5,568	61·61	88·0
10. Orissa	3,985	4,226	5,504	5,504	72·4	76·79
11. Punjab	8,431	†	8,137	†	104·0	†
12. Rajasthan	3,115	4,207	5,815	5,815	53·5	72·3
13. Uttar Pradesh	35,151	35,619	35,987	35,521	97·67	100·0
14. West Bengal	11,953	11,306	12,541	12,461	95·30	90·7
II. *Union Territories*						
1. Andaman & Nicobar Islands	†	†	†	†	†	†
2. Delhi	1,527	†	†	†	119·95	†
3. Himachal Pradesh	164	198	278	261	58·9	75·8
4. Manipur	†	124	†	294	†	42·2
5. Tripura	361	333	283	†	—	†
6. Pondicherry	†	†	†	†	†	†

Note:—*Relates to Andhra region only.

†Information not available.

—Nil information.

Table No. 14

Admission rate, constant sick rate and percentage of prisoners who gained, lost weight and remained stationary.

I. States	Admission rate per thousand of average daily population		Constant sick rate per 1,000 of average daily population		Percentage of prisoners: Who gained weight		Who remained stationary		Who lost weight	
	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956
1. Andhra Pradesh ..	435·26*	415·0	10·79	15·6	42·0	50·3	55·0	40·6	3·0	9·1
2. Assam	470·92	†	21·90	†	48·8	†	45·7	†	5·0	†
3. Bihar	111·13	†	38·86	†	51·0	†	43·0	†	6·0	†
4. Bombay	450·10	453·1	14·20	11·3	24·27	26·0	66·74	65·0	8·99	9·0
5. Jammu & Kashmir ..	†	†	†	†	†	†	†	†	†	†
6. Kerala	12·67	2800·0	6·29	33·1	79·87	82·1	18·24	11·4	1·89	6·5
7. Madhya Pradesh	†	†	†	†	†	†	†	†	†	†
8. Madras	343·97	154·0	9·37	8·1	60·64	63·44	37·88	35·84	1·48	1·32
9. Mysore	287·4	325·0	39·78	29·9	76·7	88·04	15·80	60·7	7·60	5·89
10. Orissa	1263·87	1694·0	59·52	57·97	68·76	57·52	24·97	31·31	6·27	11·17
11. Punjab	1311·94	†	32·74	†	37·26	†	55·01	†	7·73	†
12. Rajasthan	1604·5	95·0	34·7	22·6	55·5	45·5	41·3	47·9	3·2	6·8
13. Uttar Pradesh	728·1	523·0	18·4	16·0	46·92	46·9	49·09	49·8	3·99	3·3
14. West Bengal	1358·0	1340·0	36·27	39·33	17·57	17·61	79·71	79·36	2·71	3·03
II. *Union Territories*										
1. Andaman & Nicobar Islands	†	†	†	†	†	†	†	†	†	†
2. Delhi	566·3	†	27·5	†	20·40	†	78·80	†	0·80	†
3. Himachal Pradesh ..	1033·0	†	974·82	†	65·00	†	30·00	†	5·00	†
4. Manipur	†	†	†	†	†	†	†	†	†	†
5. Tripura	1903·20	†	10·84	†	20·00	15·0	80·00	65·0	—	—
6. Pondicherry	†	†	†	†	†	†	†	†	†	†

NOTE:—*Relates to Andhra region only.
†Information not available.
—Nil information.

Table No. 15

Admission rates per mille of average daily population in different States of India during 1957.

I. States 1	Cholera 2	Smallpox 3	Plague 4	Influenza 5	Enteric Fever 6	Malaria 7	Pyrexia of the uncertain origin 8	T.B. of Lungs 9	Pneumonia 10
1. Andhra Pradesh	—	—	—	63·00	—	95·46	8·10	8·30	2·30
2. Assam	—	0·45	—	102·26	0·45	56·94	29·70	6·70	6·10
3. Bihar	0·74	0·54	—	184·90	15·30	117·90	11·12	6·07	3·70
4. Bombay	0·80	0·24	—	89·20	2·00	53·70	4·90	18·00	2·16
5. Jammu & Kashmir ..	†	†	†	†	†	†	†	†	†
6. Kerala	—	0·02	—	2·03	0·71	0·08	2·04	0·08	0·03
7. Madhya Pradesh ..	†	†	†	†	†	†	†	†	†
8. Madras	0·09	0·31	—	172·08	2·06	12·50	5·70	12·15	2·14
9. Mysore	—	—	—	337·70	1·7	144·9	34·4	1·2	7·3
10. Orissa	—	0·25	—	25·62	2·26	222·06	26·60	15·56	6·27
11. Punjab	—	—	—	109·96	2·97	162·38	95·01	18·50	6·25
12. Rajasthan	—	0·30	—	48·50	2·90	280·00	31·5	13·20	12·50
13. Uttar Pradesh	†	†	†	†	†	†	†	†	†
14. West Bengal	—	0·75	—	354·21	2·76	77·30	150·66	18·15	7·11
II. *Union Territories*									
1. Andaman & Nicobar Islands	†	†	†	†	†	†	†	†	†
2. Delhi	—	—	—	—	1·30	14·40	163·00	15·00	4·6
3. Himachal Pradesh ..	—	—	—	487·8	6·1	439·0	12·2	6·9	24·4
4. Manipur	†	†	†	†	†	†	†	†	†
5. Tripura	—	—	—	253·58	—	18·83	235·14	—	23·03
6. Pondicherry	†	†	†	†	†	†	†	†	†

Note:—*Information not available.
—Nil information.

Table No. 15—contd.

I. States	Other respiratory diseases 11	Dysentery 12	Diarrhoea 13	Anaemia and debility 14	Other deficiency diseases 15	All other causes 16	Total 17
1. Andhra Pradesh	30·20	53·40	7·20	25·60	—	126·70	435·26
2. Assam	20·90	106·82	34·38	24·34	12·35	85·30	470·92
3. Bihar	49·60	11·96	45·38	26·50	—	531·0	1,111·30
4. Bombay	30·20	46·90	11·20	26·40	4·30	160·10	450·10
5. Jammu & Kashmir	†	†	†	†	†	†	†
6. Kerala	1·07	1·75	0·32	1·80	1·07	1·69	12·67
7. Madhya Pradesh	†	†	†	†	†	†	†
8. Madras	16·25	41·44	0·81	5·00	5·09	69·39	343·97
9. Mysore	413·7	101·0	91·8	40·5	12·0	1,666·4	2,873·80
10. Orissa	134·49	79·04	126·71	38·64	182·17	675·40	1,263·87
11. Punjab	135·45	42·70	33·92	22·89	—	600·88	1,311·94
12. Rajasthan	186·20	144·0	190·00	89·20	0·60	532·3	1,604·5
13. Uttar Pradesh	†	†	†	†	†	†	728·10
14. West Bengal	139·79	160·87	79·64	45·51	41·41	27·98	1,358·03
II. *Union Territories*							
1. Andaman & Nicobar Islands	†	†	†	†	†	†	†
2. Delhi	43·30	19·60	6·50	18·90	—	279·7	566·30
3. Himachal Pradesh	4,341·5	298·8	201·2	640·2	1,024·4	2,262·2	5,740·87
4. Manipur	†	†	†	†	†	†	†
5. Tripura	391·03	193·63	207·6	9·22	—	576·24	1,903·20
6. Pondicherry	†	†	†	†	†	†	†

Note:—†Figures not available.
—Nil information.

Table No. 16

Death rates per mille of average daily population in different States of India during 1957.

I. States 1	Cholera 2	Smallpox 3	Plague 4	Influenza 5	Enteric Fever 6	Malaria 7	Pyrexia of uncertain origin 8	T. B. of Lungs 9
1. Andhra Pradesh ..	—	—	—	—	—	—	—	1·50
2. Assam	—	—	—	—	—	—	—	1·56
3. Bihar	—	—	—	0·51	0·04	0·32	0·03	0·02
4. Bombay	—	0·10	—	—	0·04	0·04	—	0·34
5. Jammu & Kashmir ..	†	†	†	†	†	†	†	†
6. Kerala	—	—	—	—	—	—	—	—
7. Madhya Pradesh ..	†	†	†	†	†	†	†	†
8. Madras	—	—	—	0·09	0·09	—	—	0·26
9. Mysore	—	—	—	—	—	0·58	—	—
10. Orissa	—	—	—	—	0·75	0·25	—	0·75
11. Punjab	—	—	—	—	—	0·24	—	0·59
12. Rajasthan	†	†	†	†	†	†	†	†
13. Uttar Pradesh ..	†	†	†	†	†	†	†	†
14. West Bengal ..	—	—	—	0·2	—	—	0·1	0·4
II. *Union Territories*								
1. Andaman & Nicobar Islands.	†	†	†	†	†	†	†	†
2. Delhi	—	—	—	—	—	—	—	0·13
3. Himachal Pradesh ..	—	—	—	—	—	—	—	—
4. Manipur	†	†	†	†	†	†	†	†
5. Tripura	—	—	—	—	—	—	—	—
6. Pondicherry ..	†	†	†	†	†	†	†	†

Note:—†Figures not available.
—Figures nil.

Table No. 16—contd.

I. States 1	Pneumonia 10	Other respiratory diseases 11	Dysentery 12	Diarrhoea 13	Anaemia and debility 14	Other deficiency diseases 15	All other causes 16	Total 17
1. Andhra Pradesh ..	†	†	2·50	—	1·80	—	11·0	16 80
2. Assam	0·45	0·45	1·56	—	2·81	—	3·60	10·43
3. Bihar	0·01	0·13	0·32	0·12	0·07	—	1·44	3·01
4. Bombay	0·34	0·13	0·04	0·04	0·18	0·13	1·67	2·75
5. Jammu & Kashmir ..	†	†	†	†	†	†	†	†
6. Kerala	—	—	—	—	—	—	—	—
7. Madhya Pradesh ..	†	†	†	†	†	†	†	†
8. Madras	0·18	0·45	0·18	—	0·09	—	2·13	3·47
9. Mysore	—	1·45	—	—	0·58	—	—	2·68
10. Orissa	0·25	0·50	0·25	0·50	1·25	—	1·50	6·02
11. Punjab	—	—	—	0·12	—	—	1·54	2·49
12. Rajasthan	†	†	†	†	†	†	†	†
13. Uttar Pradesh ..	†	†	†	†	†	†	†	3·4
14. West Bengal ..	0·4	0·4	0·1	0·1	0·1	—	0·83	2·3
II. *Union Territories*								
1. Andaman and Nicobar Islands.	†	†	†	†	†	†	†	†
2. Delhi	—	—	0·07	0·07	—	—	0·13	0·39
3. Himachal Pradesh ..	—	—	—	—	—	—	—	—
4. Manipur	†	†	†	†	†	†	†	†
5. Tripura	—	—	—	—	—	—	—	—
6. Pondicherry ..	†	†	†	†	†	†	†	†

Note:—*Information not available.
—Nil information.

Table No. 17

Statement showing preventive measures taken in Jails in different States of India during the year 1957.

I. States	Vaccinations performed	Anti-cholera inoculations performed	Anti-Plague inoculations performed	Anti-typhoid	B.C.G. vaccinations	Quantity of quinine and other anti-malarial drugs distributed			
						Tablets	Injections	D.D.T. sprayed	D.D.T. (in lbs.)
1. Andhra Pradesh ..	†	†	†	†	†	†	†	†	†
2. Assam	10,756	342	—	650	—	11,850	921	195	754
3. Bihar	68,323	19,781	—	2,136	450	24,413	1,310	840	753
4. Bombay	†	7,281	—	626	258	87,220	1,600	416	2,692
5. Jammu & Kashmir	†	†	†	†	†	†	†	†	†
6. Kerala	2,556	1,495	—	—	—	25	10	105	326
7. Madhya Pradesh ..	†	†	†	†	†	†	†	†	†
8. Madras	†	†	†	†	†	†	†	†	†
9. Mysore	6,921	5,030	—	165	—	2,000	1,547	127	129
10 Orissa	14,075	5,985	—	4,812	124	30,642	682	244	784
11. Punjab	8,381	4,704	—	4,804	100	72,312	488	522	544
12. Rajasthan ..	4,828	3,739	—	67	32	3,000	451	39	99
13. Uttar Pradesh ..	13,195	20,319	340	2,410	456	112,687	1,755	2,090	899
14. West Bengal ..	86,855	52,246	—	6,509	—	43,531	5,442	2,023	5,560
II. *Union Territories*									
1. Andaman & Nicobar Islands	†	†	†	†	†	†	†	†	†
2. Delhi	—	1,203	—	—	—	500	5	2	†
3. Himachal Pradesh ..	—	—	—	—	—	1,325	—	—	†
4. Manipur ..	†	†	†	†	†	†	†	†	†
5. Tripura ..	1,469	1,066	—	50	25	2,590	10	25	100
6. Pondicherry	†	†	†	†	†	†	†	†	†

Note:—†Information not available.
—Nil information.

Table No. 18

Case fatality rates in the Jails of the various States of India during 1957.

I. **States**	Cholera	Smallpox	Plague	Influenza	Enteric Fever	Malaria	Pyrexia of uncertain origin	T.B. of lungs	Pneumonia	Other respiratory diseases	Dysentery	Diarrhoea	Anaemia	Other deficiency diseases	All other causes
1. Andhra Pradesh	—	—	—	—	—	—	—	1·5	—	—	2·5	—	1·8	—	11·0
2. Assam ..	—	—	—	—	—	—	—	23·33	7·14	2·13	1·53	—	11·93	—	4·19
3. Bihar ..	7·69	—	—	0·03	1·87	0·09	0·51	0·94	1·53	1·26	0·87	0·75	1·48	—	0·47
4. Bombay ..	—	40·00	—	—	1·90	0·09	—	2·00	1·10	0·50	0·10	0·40	0·74	1·03	1·03
5. Jammu & Kashmir	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
6. Kerala ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Madhya Pradesh	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
8. Madras ..	—	—	—	0·09	0·09	—	—	0·26	0·18	0·45	0·18	—	0·09	—	2·13
9. Mysore ..	—	—	—	—	—	0·42	—	—	—	1·05	—	—	0·42	—	—
10. Orissa ..	—	—	—	—	33·33	0·11	—	4·84	4·00	0·37	0·32	0·4	3·25	—	—
11. Punjab ..	—	—	—	—	0·15	0·15	—	3·26	—	—	—	0·35	—	0·26	0·19
12. Rajasthan	—	—	—	—	—	—	—	2·44	—	0·17	—	—	—	—	0·60
13. Uttar Pradesh	24·1	—	—	0·04	—	0·10	—	4·06	7·0	5·30	—	0·40	0·2	—	0·70
14. West Bengal	—	—	—	0·04	—	—	0·05	1·84	4·70	0·24	0·05	0·10	0·18	—	0·29
II. *Union Territories*															
1. Andaman & Nicobar Islands	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
2. Delhi ..	—	—	—	—	—	—	9·0	—	—	—	3·30	10·0	—	—	0·44
3. Himachal Pradesh	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Manipur ..	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
5. Tripura ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Pondicherry	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†

Note:—†Information not available.
—Nil information.

Table No. 19

Demonstration Health Units functioning in the States during the year 1957.

Particulars	Poonamalle Health Unit, Madras		Health Triaining Centre, Ramanagaram, Mysore		Sirur Health Unit		Rural Health Unit & Training Centre, Singur		Medical College Cheruvekkal, Kerala	
	For unit area	For rural area	For unit area	For rural area	For unit area	For rural area	For unit area	For rural area	For unit area	For rural area
1. Year of establishment	1935		1936		1939		1939		1953	
2. Area covered in sq. miles	35		113		492		†			19
3. Population (Census 1951)	61,523		84,637		95,408*		95,000			†
4. Birth Rate ..	46·9	24·2	38·50	†	42·46	†	32·69	†	29·70	†
5. Death Rate	22·46	13·72	13·30	†	14·83	†	7·35	†	9·80	†
6. Infant Mortality Rate ..	147·00	113·70	114·10	†	98·00	†	60·58	†	12·70	†
7. Maternal Mortality ..	0·90	4·31	6·60	†	2·22	†	2·17	†	†	†
8. Percentage of still births among total births	3·6	0·46	3·20	†	1·45	†	†	†	2·70	†

Note:—*Mid year estimated population.
†Information not available.
—Nil information.

Table No. 20

Cause specific deaths and death rates due to certain causes in different Demonstration Health Units in India during the year 1957

Units	Cholera		Smallpox		Plague		Dysentery & Diarrhoea		Respiratory Diseases	
	D	R	D	R	D	R	D	R	D	R
1. Poonamalle Health Unit, Madras ..	6	0·1	5	0·08	—	—	347	5·6	180	3·0
2. Health Training Centre, Ramanagaram, Mysore	—	—	5	0·06	—	—	137	1·6	†	†
3. Sirur Health Unit, Bombay ..	32	0·3	—	—	—	—	94	1·0	†	†
4. Rural Health Unit and Training Centre, West Bengal	4	0·054	34	0·46	—	—	60	0·82	†	†
5. Medical College Unit, Cheruvikkal, Kerala	—	—	10	†	—	—	18	†	†	†

Units	Malaria		Other fevers		Enteric fevers		Other causes		Total deaths
	D	R	D	R	D	R	D	R	
1. Poonamalle Health Unit, Madras	3	0·05	242	3·9	†	†	642	10·4	1,425
2. Health Training Centre, Ramanagaram Mysore	—	—	76	0·9	1	0·01	167	2·0	386
3. Sirur Health Unit, Bombay ..	†	†	†	†	31	0·30	†	†	†
4. Rural Health Unit and Training Centre, West Bengal	3	0·041	†	†	7	0·095	8	0·11	116
5. Medical College Unit, Cheruvikkal, Kerala	—	—	76	†	3	†	8	†	115

Note:—†Information not available.
— Nil information.
D—Deaths.
R—Rates per mille of population.

Table No. 21

Preventive measures taken in different Demonstration Health Units in India during the year 1957.

Units	Primary vaccinations	Re-vaccinations	Anti-cholera	Anti-plague	Anti-typhoid	Others	B.C.G.
1. Poonamalle Health Unit. Madras	2,796	16,604	8,637	—	42	—	—
2. Health Training Centre, Ramanagaram. Mysore	4.404	25,044	139	—	57	—	—
3. Sirur Health Unit, Bombay . .	3,726	8,443	64,598	—	—	—	—
4. Rural Health Unit and Training Centre. Singur. West Bengal . .	7,025	31.274	23,124	—	6,539	350	1,284
5. Medical College Unit. Cheruvekkal Kerala	2,161	17,587	202	—	196	—	—

Table No. 22

Maternity and Child Welfare activities in different Health Demonstration Units in India during the year 1957.

Unit	M.C.W. Centres at the end of the year	Maternity Homes	Beds	No. of Maternity Clinics	Attendance at the Clinics	No. of mother classes held	Number of home visits paid by the staff of the Unit				
							Prenatal	Postnatal	Preschools	Nursing mothers	Other visits
1. Poonamalle Health Unit, Madras	7	6	32	531	†	24,170	39,333	11,329	16,006	18,670	†
2. Health Training Centre, Ramanagaram. Mysore . .	1	1	10	32	10,021	1,627	29,283	9,905	12,379	9,905	9.258
3. Sirur Health Unit, Bombay	8	2	4	520	7,531	6	4,328	†	9,694	5,941	2,169
4. Singur Health Unit & Training Centre, West Bengal	4	1	6	4	†	†	†	†	†	†	†
5. Medical College, Cheruvekkal, Kerala . .	6	—	—	414	15,144	†	9,815	3,753	4,323	2,382	52

Note:—Information not available. — Nil information.

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Table No. 23

Health personnel employed in different Demonstration Health Units in India during the year 1957.

Units	Medical Officer of Health	Asstt. Medical Officer	Lady Asstt. Surgeon	Health Inspector	Pubic Health Nurses	Public Health Midwives	Health visitors	Nursing Super-visor	Health Assistants	P.H.A. Engineer	Other staff
1. Poonamalle Health Unit, Madras	2	—	1	5	—	—	5	—	4	1	38
2. Health Training Centre, Ramanagaram, Mysore	1	3	1	9	5	20	—	1	—	—	6
3. Sirur Health Unit, Bombay	1	1	—	—	3	13	—	—	—	—	—
4. Singur Health Unit and Training Centre, West Bengal	9	3	—	2	3	5	3	—	—	—	—
5. Medical College Unit, Cheruvekkal, Kerala ..	2	—	—	2	3	3	4	—	4	—	—

Note :— —Nil information.

Table No. 24

Number of Hospitals, Dispensaries, beds available for in-patients therein and number of beds reserved for T.B. in various Railways during the years 1956 *and* 1957.

Particulars	Central Railway		Northern Railway		Southern Railway		Eastern Railway		Western Railway		North Eastern Railway		South Eastern Railway		Chittaranjan Locomotive Works		Ganga Bridge Project	
..	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
1. Number of hospitals ..	12	10	12	13	13	13	15	10	10	10	12	13	7	7	1	1	1	1
Beds	486	478	449	601	479	566	554	516	202	239	481	551	372	372	70	70	19	19
2. Number of dispensaries ..	50	51	75	76	67	68	58	58	59	65	67	69	54	56	5	5	4*	3
Beds	29	39	138	149	23	31	60	100	91	100	52	52	9	7	—	—	—	—
3. Number of Sanatoria Clinics	—	—	3	5	1	1	5	10	—	—	—	—	2	2	—	—	—	—
Beds	—	—	18	18	25	25	—	—	—	—	—	—	15	15	—	—	—	—
4. Number of other institutions	—	—	—	—	19	19	10	10	—	—	—	—	—	—	—	—	—	—
5. Number of T.B. beds (reserved for Railway staff in other Sanatoria) ..	15	85	50	50	30	69	55	125	61	61	29	42	41	77	12	12	—	—

Note:—*One dispensary was functioning in 1956 at Chur for construction of Guide Bank.
—Nil information.

Table No. 25

Number of Maternity and Child Welfare Centres, beds and the staff employed together with the work done in different Railways during the years 1956 and 1957.

Railways	Number of Maternity & Child Welfare Centres		Number of beds		Supervisors		Nurses		Midwives		Dais		Health visitors	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Central	3	3	16	18	—	—	1	1	5	6	—	—	3	1
2. Northern	—	—	—	†	†	†	†	†	†	†	†	†	†	†
3. Southern	19	19	—	—	5	5	18*	18*	—	—	15@	15@	5	5
4. Western	16	16	58	70	—	—	—	—	20	23	—	—	10	10
5. Eastern	21	37	—	—	—	9	—	—	21	34	5	12	5	5
6. North-Eastern ..	1	1	—	—	1	1	—	—	1	1	1	1	1	1
7. South-Eastern ..	21	24	—	—	8	8	—	—	56	56	5	—	1	5
8. North-East Frontier△														
9. Chittaranjan Locomotive Works	1	1	†	—	—	—	1	1	2	2	—	—	—	—
10. Ganga Bridge Project	—	—	—	—	—	—	—	—	—	2	—	—	—	—

Note:—*Nurses and Midwives combined.

@ Dais (Ayahs).

†Information not available.

△Information in respect of this Railway is included in the Eastern Railway.

—Nil information.

Table No. 25—contd.

Railways	Ayahs		Number of home visits made							
			Pre-natal		Ante-natal		Infant visits		No. of labour cases	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
	16	17	18	19	20	21	22	23	24	25
1. Central	2	2	†	284	220	684	25	87	400	828
2. Northern	†	†	23,111	7,544	6,980	4,872	41,203	8,099	1,255	967
3. Southern	†	†	19,791	19,641	30,576	26,599	20,743	12,760	1,754	1,803
4. Western	26	27	912	525	1,419	2,180	1,199	698	2,023	2,934
5. Eastern	—	—	19,630	20,398	7,740	12,398	24,434	21,175	2,038	2,280
6. North-Eastern ..	—	—	4,920	5,812	5,037	5,540	2,187	2,502	2,243	1,760
7. South-Eastern ..	—	—	13,348	15,456	11,690	22,627	11,256	10,846	1,927	1,486
8. North-East Frontier*										
9. Chittaranjan Locomotive Works ..	3	3	4,183	—	2,515	4,381	370	203	131	†
10. Ganga Bridge Project	—	—	—	13	—	33	—	21	—	4

Railways	No. of deliveries		Attendance		Mother classes	
	1956	1957	1956	1957	1956	1957
	26	27	28	29	30	31
1. Central	644	758	2,798	3,030	—	—
2. Northern	1,148	778	37,021	33,137	138	115
3. Southern	1,707	1,716	85,356	1,39,929	200	96
4. Western	1,689	2,634	12,764	10,748	92	100
5. Eastern	1,227	1,642	13,548	12,636	87	38
6. North-Eastern ..	1,359	1,281	4,673	5,265	2	—
7. South-Eastern ..	1,491	1,495	3,499	4,537	—	—
8. North-East Frontier*						
9. Chittaranjan Locomotive Works	170	†	1,090	1,228	—	—
10. Ganga Bridge Project	—	—	4	—	—	—

Note:—†Information not available.

—Nil information.

*Information in respect of this Railway is included in the Eastern Railway.

Table No. 26

Medical and Health Staff in Railways.

Railways	Medical Superior Services		Assistant Surgeons		Nursing staff		Compounders		Other staff	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
1. Central	20	20	131	165	123	139	124	132	462	650
2. Northern	12	18	169	197	89	146	159	172	902	1,012
3. Southern	16	22	176	196	125	169	187	192	148	155
4. Eastern	13	19	136	151	114	147	107	107	972	1,000
5. Western	17	18	141	182	107	122	156	180	707	836
6. North-Eastern	14	15	158	161	97	144	156	157	1,226	1,327
7. South-Eastern	13	17	144	151	136	134	76	77	309	319
8. Chittaranjan Locomotive Works ..	1	1	13	15	16	18	9	10	1	1
9. Ganga Bridge Project	1	1	4	4	—	2	5	5	30	30

Note:—(1) Superior Services include C.M.O., D.M.O., A. M.O. and Malaria Officer

(2) Nursing staff including Matrons, Nurses, Staff Nurses, Probationary Nurses and Midwives and Health Visitors (including in M. & C.W. Centres).

(3) Other staff means other class III & IV staff working in Medical Departments.

—Nil information.

Table No. 27

Annual expenditure incurred by different Railways on medical and public health departments during the years 1956-57 *and* 1957-58.

Railways	Medical		Public Health		Total	
	1956-57	1957-58	1956-57	1957-58	1956-57	1957-58
	(Rs. in thousand)		(Rs. in thousand)		(Rs. in thousand)	
1. Central	3,073	3,788	3,302	3,712	6,375	7,500
2. Northern	3,178	4,170	4,515	4,894	7,693	9,064
3. Southern	3,019	3,663	2,141	2,368	3,160	6,031
4. Western	2,832	3,296	1,754	1,867	4,586	5,163
5. Eastern	3,114	3,723	3,595	3,553	6,709	7,276
6. North Eastern	2,978	3,651	4,125	4,597	7,103	8,248
7. South Eastern ..	2,406	2,835	2,511	2,563	4,917	5,398
8. Chittaranjan Locomotive Works ..	449	479	156	150	605	629
9. Ganga Bridge Project	118	134	61	66	179	200
TOTAL ..	21,167	25,739	22,160	23,770	43,327	49,509

Table No. 28

Cases and deaths to certain causes recorded in Hospitals in the various Railways during the years 1956 *and* 1957.

Railways	Years	Cholera		Smallpox		Plague		Dysentery & Diarrhoea		Malaria		Enteric fever		Other fevers	
		C	D	C	D	C	D	C	D	C	D	C	D	C	D
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Central	1956	8	2	451	16	—	—	55,664	14	26,802	2	653	14	72,621	7
	1957	67	14	742	25	—	—	65,154	8	27,498	4	617	7	147,434	11
2. Northern	1956	2	—	220	14	—	—	80,789	1	47,519	2	1,325	6	53,624	11
	1957	10	—	392	7	—	—	99,202	3	48,800	3	1,538	6	71,414	13
3. Southern	1956	—	—	172	11	—	—	97,184	8	8,167	—	781	11	161,013	18
	1957	18	3	262	13	—	—	88,720	22	4,420	—	445	16	266,893	18
4. Western	1956	—	—	286	9	—	—	71,582	12	84,994	13	731	7	5,963	3
	1957	9	—	634	34	—	—	72,918	3	85,780	8	636	9	19,681	3
5 Eastern	1956	25	2	95	21	—	—	51,608	15	1,597	—	†	†	†	†
	1957	15	5	70	7	—	—	63,291	10	1,305	—	1,487	14	24,684	6
6. North Eastern	1956	20	6	164	18	—	—	98,471	26	10,795	8	1,199	7	62,791	36
	1957	10	5	73	6	—	—	91,277	27	11,060	6	925	15	81,014	9
7. South Eastern	1956	40	8	49	4	—	—	87,589	13	7,439	4	1,637	6	118,050	13
	1957	38	9	141	13	—	—	102,071	16	4,702	—	1,833	9	180,039	16
8. Chittaranjan Locomotive Works	1956	†	†	†	†	†	†	†	†	†	†	†	†	†	†
	1957	—	—	3	1	—	—	6,297	3	4	—	10	—	4,404	—
9. Ganga Bridge Project ..	1956	—	—	—	—	—	—	2,234	—	40	—	5	—	20,347	—
	1957	—	—	—	—	—	—	1,435	—	44	—	14	5	16,873	—

Note :—† Information not available.
—Nil information.
C—Cases
D—Deaths

Table No. 28—contd.

Railways	Years	T.B.		Leprosy		Injuries		Other causes		Total	
		C	D	C	D	C	D	C	D	C	D
		17	18	19	20	21	22	23	24	25	26
1. Central	1956	1,517	62	42	—	46,186	45	279,827	163	483,771	334
	1957	2,027	56	52	1	50,252	48	371,026	233	664,869	437
2. Northern	1956	1,377	17	2	—	67,834	19	671,598	108	924,250	178
	1957	2,084	21	9	—	72,061	19	844,340	114	1,139,850	186
3. Southern	1956	1,489	52	251	1	120,371	10	710,866	113	1,100,294	226
	1957	1,763	42	212	2	139,651	15	794,705	193	1,297,089	324
4. Western	1956	1,315	24	7	—	80,691	24	570,916	117	816,485	209
	1957	1,119	30	22	—	103,225	26	736,290	119	1,020,314	234
5. Eastern	1956	569	17	23	—	38,363	8	505,617	158	624,566	2,422
	1957	1,138	38	34	—	58,474	11	457,761	34	608,259	34
6. North-Eastern	1956	1,153	34	25	—	44,735	27	399,044	203	638,397	365
	1957	1,299	27	32	2	51,852	14	524,767	156	762,309	307
7. South-Easterrn	1956	1,465	51	25	—	63,103	3	396,333	91	675,730	199
	1957	1,523	38	45	—	98,009	5	534,733	43	923,934	149
8. Chittaranjan Locomtive Works	1956	†	†	†	†	†	†	†	†	†	†
	1957	56	2	12	—	602	1	55,788	26	67,164	33
9. Ganga Bridge	1956	—	—	—	—	993	—	561	—	24,180	—
	1957	—	—	—	—	931	—	365	—	19,662	—

Note :—† Information not available.

— Nil information.

C—Cases

D—Deahs

Table No. 29

Preventive measures undertaken in Railways during the years 1956 *and* 1957.

Railway	Years	Anti-cholera inoculations performed	Smallpox-vaccinations performed			Anti-plague inoculations performed	Anti-typhoid inoculations performed	Others
			Primary	Re-vaccinations	Total			
1. Central	1956	24,493	13,077	43,464	56,541	214	7,295	141
	1957	72,008	83,88	48,419	56,807	30	5,412	224
2. Northern	1956	8,577	5,424	33,047	38,471	109	3,261	44
	1957	15,651	5,946	38,624	44,570	73	1,749	124
3. Southern	1956	27,603	8,776	139,381	148,157	—	11,671	60
	1957	31,780	12,144	164,912	177,056	—	11,307	101
4. Western	1956							
	1957	2,027	6,395	33,953	40,348	—	269	927
5. Eastern	1956	29,627	7,345	85,241	92,586	832	7,924	2,991
	1957	28,939	11,340	133,980	145,320	—	6,714	5,144
6. North-Eastern	1956	31,464	14,291	59,464	73,753	11,700	14,916	—
	1957	37,159	10,946	103,865	114,811	1,687	21,417	2
7. South-Eastern	1956	6,843	4,855	30,012	34,867	20	944	95
	1957	48,795	11,276	45,138	56,414	1	3,857	80
8. Chittaranjan Locomotive Works ..	1956	729	450	11,584	12,034	—	—	—
	1957	140	420	3688	4,108	—	—	—
9. Ganga Bridge Project	1956	12,696	99	13,319	13,416	—	107	—
	1957	4,236	83	5,646	5,729	—	675	—

Table No. 30

Statement showing number of food-samples examined, found adulterated, the number of prosecutions launched and fines realised thereon in different States during 1957.

States	Number of samples examined	Number of samples adulterated	Percentage of total examined	Number of prosecutions launched	Fine realised (in Rupees)
1. Andhra Pradesh ..	6,729	2,367	35·20	1,756	101,279
2. Assam	568	307	54·04	†	†
3. Bihar	1,937	495	25·54	†	†
4. Bombay	†	†	†	†	†
5. Jammu & Kashmir ..	†	†	†	†	†
6. Kerala	3,432	1,018	29·70	487	11,198
7. Madhya Pradesh ..	6	4	66·60	3	49
8. Madras	11,287	3,516	31·15	†	†
9. Mysore	†	†	†	†	†
10. Orissa	1,355	391	28·86	168	†
11. Punjab	9,945	2,164	21·76	2,701	212,629
12. Rajasthan ..	4,168	1,862	44·67	†	†
13. Uttar Pradesh ..	23,150	5,173	22·35	5,013	343,086
14. West Bengal	†	†	†	†	†
Union Territories					
1. Andaman & Nicobar-Islands	3	—	—	†	†
2. Delhi	†	†	†	†	†
3. Himachal Pradesh ..	—	—	—	—	—
4. Manipur	†	†	†	†	†
5. Tripura	†	†	†	†	†
6. Pondicherry ..	54	36	66·66	†	†

Note:—† Information not available.

—Information nil.

Table No. 31

Statistics of National Water Supply and Sanitation Programme

(URBAN SCHEMES)

(Rs. in lakhs)

States	No. of approved continuation schemes		Est. cost of appd. continuation schemes	Funds paid during first Five Year Plan	Funds allocated during the second Five Year Plan	Amount sanctioned during 1956-57	Allotment during 1957-58
	Water supply	Sewerage					
1. Andhra Pradesh	19	2	593·61	109·30	240·00	90·00	30·00
2. Assam	1	—	30·55	—	45·00	—	5·00
3. Bihar	9	1	230·36	118·00	—	—	40·00
4. Bombay	35	8	846·23	85·75	135·00	—	75·00
5. Kerala	4	2	385·00	43·75	110·00	5·00	70·00
6. Madhya Pradesh	14	3	226·47	51·09	160·00	14·50	5·00
7. Madras	14	3	815·23	25·00	325·00	30·00	75·00
8. Mysore	18	6	293·40	25·45	190·00	17·00	30·00
9. Orissa	—	—	—	—	55·00	—	8·00
10. Punjab	37	23	245·26	50·625	120·00	—	10·00
11. Rajasthan	14	—	274·13	18·75	150·00	18·58	45·00
12. Uttar Pradesh	20	10	326·44*	250·00	470·00	45·00	20·00
13. West Bengal	10	—	77·29	37·50	200·00	25·00	10·00
Union Territories							
14. Delhi	2	1	191·30	14·25	—	124·06	5·00
15. Himachal Pradesh	6	—	26·60	—	—	—	—
Total ..	203	59	4561·87	829·465	2200·00	369·14	550·00

Note:—*This figure represents the estimated expenditure on schemes approved in first Plan period.

—Nil information.

Table No. 32

Statistics of National Water Supply and Sanitation Programme

(RURAL SCHEMES)

(Rs. in lakhs)

States	No. of schemes approved	Cost of schemes approved	Funds paid during first Five Year Plan	Grant sanctioned (1956-57)	Provisional allotment during 1957-58
1. Andhra Pradesh	6	106·00	16·125	10·00	6·00
2. Assam	7	55·55	6·24	3·00	4·50
3. Bihar	7	131·45*	36·00	—	4·00
4. Bombay	11	224·50	31·255	9·64	45·00
5. Jammu & Kashmir	1@	30·00	—	5·00	2·50
6. Kerala	6	38·50	8·10	2·875	4·00
7. Madhya Pradesh	4	79·78	16·00	—	9·00
8. Madras	6	144·00	15·00	—	14·00
9. Mysore	4	30·89	12·84	—	25·00
10. Orissa	13	48·60	6·00	10·50	4·00
11. Punjab	14	56·72	12·0475	—	5·00
12. Rajasthan	2	41·20	20·60	—	5·00
13. Uttar Pradesh	3	212·00	86·50	28·50	7·00
14. West Bengal	10	100·86	10·25	8·00	9·00
Union Territories					
15. Delhi	2	22·00	1·75	2·50	—
16. Himachal Pradesh	38	17·62	1·36	4·93	—
Total	134	1,299·67	200·0675	84·945	144·00

Note:—@This scheme was approved in the Second Plan period.

*A supplementary for Jharia scheme estimated to cost Rs. 10·61 lakhs was sanctioned in 7-4/56-PI (LSG). dated 5-4-56 including V.P. & M.P. allotment.

—Nil information.

Table No. 33

Diet Surveys in the States at a glance.

States	Method of survey	Number of			Places of survey	Type of population surveyed	Findings	
		Villages	Families	Persons			Class of foods poorly consumed	Nutrients in short supply
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh	7-day weighment	†	368	†	Guntur, Vinukonda, Macheria.	Different economic groups.	—	All except carbohydrates.
2. Bihar ..	Do.	†	†	†	Patna, Purnea, Muzaffarpur, Champaran.	Labourers and cultivators.	Leafy vegetables, milk and flesh foods.	Animal protein, calcium, vitamins A and C.
3. Bombay ..	†	†	†	†	Dharwar Community Project.	—	—	Animal protein, fat and calcium.
4. Kerala ..	7 day weighment	†	28	144	Cheruvikkal-rural Trivandrum.	Labourers getting Rs. 30-165 p.m.	—	Calories, protein, Vitamins A and C riboflavin.
5. Madras* ..	†	23	368	†	Madurai, Chingleput, Tanjore, Ramanathapuram, Coimbatore, South Arcot.	Rural-Agricultural and labourers in small scale industry Boarding Houses, Institutions, etc.	Pulses, leafy vegetables, milk and milk products and flesh foods.	Protein, calcium and vitamins.
6. Mysore ..	†	3	†	†	†	Harijan Hostels, urban.	—	Calories, animal proteins, fats, calcium, vitamin A.
7. Punjab ..	†	†	†	†	†	Factory workers.	Leafy vegetables, milk and milk products.	—
8. Uttar Pradesh	†	31	590	†	†	Labourers and Agriculturists.	Protective foods.	—
9. West Bengal ..	Weighment	†	45	220	Howrah, Birbhum.	Displaced persons from Pakistan.	Leafy vegetables, fruits, fats, fish, milk and milk products.	—

Note :—* The consumption of home-pounded rice in one village and parboiled rice in other villages is worthy of note.
— Nil information.
† Information not available.

Table No. 34

Result of nutrition surveys carried out in the States.

States	Method of survey	Type of population surveyed	Prominent nutrition deficiency symptoms
1. Andhra Pradesh	†	Lower income groups ..	Mild anaemia, Vitamin A, B complex deficiency sign.
2. Bihar	†	†	Vitamin A & C deficiency symptoms.
3. Bombay	†	Adults ..	General under-nourishment, mild anaemia.
4. Madras	Routine assessment schedule	145 children ..	Vitamin A, riboflavin, Vitamin C, Calcium and iron deficiencies.
5. Mysore	Rapid survey ..	16, 139 persons ..	Xerosis—9%; Folliculosis—3%; Bitot's spot—1·5%; angular stomatitis—3·5%; tongue fissures—1·1%.
6. Punjab	†	Factory workers ..	Trachoma—28—32%; mild or moderate anaemia 26—30%B2 group deficiencies—43%.
7. Uttar Pradesh	†	Agriculturists and labourers—school children.	Xerosis of conjunctive and dental caries, dental caries.
8. West Bengal	Routine nutrition survey ..	(*i*) 585 children in Malda, Bankura and Nadia districts.	Conjunctival xerosis; corneal xerosis; night blindness; angular stomatitis; dental caries—deficiency sign of Vitamin A & Vitamin B in Malda and Bankura children.
	Do.	(*ii*) 175 vagrants in Dhakuria Vagrants' Home (24-Parganas).	Generally poor health; nutritional oedema; anaemia; corneal and conjunctival xerosis.

Note :—† Information not available.

Table No. 35

Statement showing Hospitals, Dispensaries, beds and patients treated during the year 1957.

States/Union Territories	Hospitals	Dispensaries	Beds	Patients treated Indoor	 Out-door
1	2	3	4	5	6
1. Andhra Pradesh ..	254	256	11,340	14,68,943	1,30,12,169
2. Assam	46*	548	2,916	54,473	22,36,247
3. Bihar	128*	531	5,773	3,29,571	31,61.106
4. Bombay	351*	2,337	15,802	4,22,324	1,03,83,047
5. Jammu & Kashmir ..	22	98	1,760	28,506	35,05,322
6. Kerala	68	245	11,033	3,85,398	84,13,136
7. Madras	173*	286*	11,812	6,64,061	92,15,683
8. Mysore	172	792	11,293	3,38,133	1.42.25.454
9. Madhya Pradesh ..	190	442	6,778	18,04,744	30,43,239
10. Orissa	157	291	3,850	4,21,024	58,81.033
11. Punjab	182	729	11,998	2,54,829	94,98.413
12. Rajasthan	295	328	8,612	1,57,565	87,83,057
13. Uttar Pradesh ..	407	822	18,331	4,88.055	1.73,90,792
14. West Bengal ..	291*	1,613	24,671	6,55.131	1.05,61,702
15. Andaman & Nicobar Islands	6	22	388	132	850
16. Delhi	30	56	4,209	1.41,447	48,68,558
17. Himachal Pradesh ..	18	62	1,040	2,26,763	13.96,674
18. Laccadive Islands ..	†	6	†	†	†
19. Manipur	17	56	281	3,687	4,18.798
20. Pondicherry	4	34	890	16,594	4,45,096
21. Tripura	5	68	274	13.955	80,781
Total ..	2,816	9,522	1,53,051	78.75.335	12,65,21,157

Note :—* Received only part information.
† Information not available.

Table No. 36

Statement showing the number of institutions having X-ray facilities, number of cases examined and treated in the various States of India during the year 1957.

	States/Union Territories	No. of institutions having X-ray facilities	Number of cases examined	Number of cases treated
1	Andhra Pradesh	19	1,13,906	85,315
2	Assam	24	32,523	3,549
3	Bihar	26	92,660	50
4	Bombay	81	3,60,256	98,647
5	Jammu & Kashmir	7	42,378	1,339
6	Kerala	18	21,234	12,596
7	Madhya Pradesh	6	1,56,324	615
8	Madras	20	2,42,821	81,876
9	Mysore	26	1,66,223	27,170
10	Orissa	16	17,732	7,190
11	Punjab	40	69,612	8,888
12	Rajasthan	40	95,157	20,318
13	Uttar Pradesh	81	1,89,863	1,68,919
14	West Bengal	29	1,34,164	25,971
15	Andaman & Nicobar Islands ..	1	432	—
16	Delhi	13	2,56,025	6,031
17	Himachal Pradesh	7	9,939	545
18	Manipur	1	2,274	—
19	Pondicherry	2	1,025	—
20	Tripura	2	—	—
	Total ..	459	20,04,548	5,49,019

Note:—

—Nil information.

Table No. 37

Statement showing the number of institutions having radium facilities and quantity of radium available (mg.) etc., in the various States of India during the year 1957.

	States/Union Territories	Radium			Radium—Isotopes		
		No. of Instiutions having radium facilities	Quantity of radium available (mg.)	No. of patients treated	No. of Institution having radium isotopes facilities	Number of cases	
						Diagnosed	Treated
1	Andhra Pradesh	3	690	369	—	—	—
2	Assam	4	880	68	—	—	—
3	Bihar	1	840	501	1	11	11
4	Bombay	3	308	1,233	—	—	—
5	Jammu & Kashmir	—	—	—	—	—	—
6	Kerala	2	372	399	—	—	—
7	Madhya Pradesh	6	144	14,234	2	—	—
8	Madras	5	2,645	1,428	—	—	—
9	Mysore	4	1,012	326	1	2	—
10	Orissa	1	528	120	—	—	—
11	Punjab	3	—	425	—	—	—
12	Rajasthan	1	140	29	—	—	—
13	Uttar Pradesh	3	450	2,857	—	—	—
14	West Bengal	2	4,685	247	1	31	14
15	Andaman & Nicobar Islands	—	—	—	—	—	—
16	Delhi	1	242	174	—	—	—
17	Himachal Pradesh	1	228	47	—	—	—
18	Manipur	—	—	—	—	—	—
19	Pondicherry	—	—	—	—	—	—
20	Tripura	—	—	—	—	—	—
	Total ..	40	13,164	22,457	5	44	25

NOTE:—

—Nil information.

Table No. 38

Mental Hospitals in India during the year 1957.

	States	Names and locations of Mental Hospitals	Number of beds
1	Andhra Pradesh ..	1. Government Mental Hospital, Waltair ..	210
		2. Hospital for Mental Diseases, Hyderabad ..	600
2	Assam	1. Mental Hospital, Tezpur	740
3	Bihar	1. Hospital for Mental Diseases, Ranchi ..	420
		2. Ranchi Manasik Arogyashala, Ranchi ..	1,380
4	Bombay	1. Central Mental Hospital, Yervada ..	1,297
		2. Mental Hospital, Thana	440
		3. Mental Hospital, Ahmedabad	317
		4. Mental Hospital, Baroda	155
		5. Mental Hospital, Ratnagiri	226
		6. Mental Hospital, Bhavanagar	18
		7. Mental Hospital, Nagpur	600
		8. Mental Hospital, Bhuj	16
5	Kerala	1. Mental Hospital, Trivandrum	201
		2. Mental Hospital, Trichur	189
		3. Government Mental Hospital, Kozhikode	364
6	Madhya Pradesh ..	1. Mental Hospital, Gwalior	120
		2. Mental Hospital, Indore	50
7	Madras	1. Government Mental Hospital, Madras ..	888
8	Mysore	1. Government Mental Hospital, Bangalore ..	500
		2. Mental Hospital, Dharwar	249
9	Orissa	—	75 beds reserved in Mental Hospital, Ranchi, for the patients of this State.
10	Punjab	1. Punjab Mental Hospital, Amritsar ..	500
11	Rajasthan	1. Mental Hospital, Jaipur	120
		2. Mental Hospital, Jodhpur	60
		3. Mental Hospital, Udaipur	24
12	Uttar Pradesh ..	1. Mental Hospital, Agra	622
		2. Mental Hospital, Bareilly	412
		3. Mental Hospital, Banaras	331
13	West Bengal ..	1. Bangiya Unmad Asram, Dum Dum, Calcutta	85
		2. Lumbini Park Mental Hospital, Tiljala, 24-Parganas	80
		3. Mankundu Mental Hospital, Calcutta ..	60
		4. Mental Observation Ward, Bhawanipur, Calcutta	30

Note:—

—Nil information.

Table No. 39

Statement showing number of persons trained during 1957-58.

States/Union Territories	Doctors	Health Visitors	Social Workers	Others	Total
1. Andhra Pradesh	1	1	—	—	2
2. Assam	93*	2	—	5*	100
3. Bihar	—	1	—	—	1
4. Bombay	11	3	4	—	18
5. Jammu & Kashmir	—	—	—	—	—
6. Kerala	1	—	1	—	2
7. Madhya Pradesh	2	1	1	—	4
8. Madras	1	—	1	—	2
9. Mysore	7	1	—	27	35
10. Orissa	1	2	—	—	3
11. Punjab	1	—	—	—	1
12. Rajasthan	1	—	—	—	1
13. Uttar Pradesh	3	—	2	—	5
14. West Bengal	6	1	—	—	7
15. Delhi	8	17	4	1	30
16. Himachal Pradesh	—	1	1	—	2
17. Tripura	1	1	—	—	2
Total	137	31	14	33	215

Note:—

*Includes 87 doctors and 5 others who were given 5 days course of training by Touring Training Team in Dooars.

—Nil information.

Table No. 40

Statement showing the number of clinics opened in the various States of India during the First Five Year Plan period and 1956 and 1957.

States/Union Territories	Clinics opened during First Five Year Plan period		Clinics opened during 1956		Clinics opened during 1957		Total	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1. Andhra Pradesh	—	8	—	—	1	7	1	15
2. Assam	—	1	—	—	35	8	35	9
3. Bihar	—	20	—	—	—	—	—	20
4. Bombay	—	11	—	—	43	16	43	27
5. Jammu & Kashmir	—	—	—	—	—	—	—	—
6. Kerala	11	1	10	4	10	—	31	5
7. Madhya Pradesh	—	7	—	—	—	2	—	9
8. Madras	8	16	—	—	63	11	71	27
9. Mysore	—	6	—	1	5	5	5	12
10. Orissa	—	3	—	1	—	3	—	7
11. Punjab	—	1	—	—	2	1	2	2
12. Rajasthan	—	9	—	—	25	7	25	16
13. Uttar Pradesh	1	6	—	—	—	6	1	12
14. West Bengal	7	13	—	—	10	18	17	31
15. Delhi	—	18	—	—	—	8	—	26
16. Himachal Pradesh	—	5	—	—	—	2	—	7
17. Manipur	—	—	—	—	—	—	—	—
18. Tripura	—	1	—	—	—	—	—	1
19. Pondicherry	—	—	—	—	—	1	—	1
Total ..	27	126	10	6	194	95	231	227

Note:—

—Nil information.

Table No. 41

Statement showing the amounts sanctioned for various Organisations during the fiscal years 1956-57 and 1957-58.

States/Union Territories	Amount sanctioned during 1956-57		Amount sanctioned during 1957-58	
	State Govt.	Local Bodies and Voluntary Organisations	State Govt.	Local Bodies and Voluntary Organisations
1. Andhra Pradesh ..	—	8,761	90,621	11,630
2. Assam	—	—	91,500	25,696
3. Bihar	—	—	38,442	9,760
4. Bombay	11,500	5,11,186	71,240	8,39,963
5. Jammu & Kashmir ..	—	—	—	—
6. Kerala	—	3,000	—	46,386
7. Madhya Pradesh ..	—	—	7,000	17,000
8. Madras	14,363	15,713	36,840	38,613
9. Mysore	—	22,000	52,908	25,228
10. Orissa	17,000	—	—	—
11. Punjab	—	15,000	71,367	87,513
12. Rajasthan	—	—	1,55,180	13,089
13. Uttar Pradesh	—	9,515	600	1,48,127
14. West Bengal	—	19,484	70,597	1,98,119
15. Delhi	15,000	2,000	—	1,40,892
16. Himachal Pradesh ..	—	—	—	—
17. Manipur	—	—	—	7,750
18. Tripura	—	—	—	—
Total ..	57,863	6,06,659	6,86,295	16,09,766

Note :—

—Nil information.

Table No. 42

List of Research Schemes sanctioned by the I.C.M. R. during 1957-58.

1. Enquiry on twins and consanguinity under Dr. L. D. Sanghvi at the Indian Cancer Research Centre, Bombay.
2. Enquiry on Hypothalamic and Endocrinal control of physiology of reproduction under Dr. B. K. Anand at the All India Institute of Medical Sciences, New Delhi.
3. Studies on ovarian functions following hysterectomy and morphological study on ova in abortion under Dr. P. C. Das at the Eden Hospital, Medical College, Calcutta.
4. Enquiry on radiation hazards affecting fertility under Dr. S. P. Basu and Dr. C. L. Mukerji at the School of Tropical Medicine and S.S.K. Memorial Hospital, Calcutta.
5. Endometrial study in menstruation under Dr. S. C. Bose at the Medical College, Calcutta.
6. Study on interval between termination of pregnancy and resumption of menstruation under Dr. C. Chandrasekharan and Muktha Sen at the All India Institute of Hygiene and Public Health, Calcutta.
   (This enquiry did not start).
7. Field trials of suitable contraceptives at the Indian Cancer Research Centre, Parel, Bombay.

Table No. 43

Statement showing total number of Maternity and Child Welfare Centres, number of live births, maternity beds and paediatric beds etc. in different States of India during the year 1957.

States	Maternity & Child Welfare Centres			Maternity beds			Total no. of Paediatric beds	Total no. of live births	Percentage of Maternity beds to live births	Percentage of Paediatric beds to live births
	Rural	Urban	Total	Rural	Urban	Total				
1. Andhra Pradesh	607	209	816	†	†	†	†	625,327	†	†
2. Assam	64	6	70	†	313	313	†	91,032	0·34	†
3. Bihar	23	70	93	†	†	†	†	565,168	†	†
4. Bombay	292	321	613	871	2,548	3,419	250	1,519,146	0·23	0·016
5. Jammu & Kashmir ..	†	†	4	†	†	†	†	†	†	†
6. Kerala	538	103	641	203	1,518	1,721	184	356,964	0·48	0·052
7. Madhya Pradesh	†	†	89	311	1,572	1,883	1,108	89,988	2·09	1·231
8. Madras	1,124	257	1,381	†	†	†	†	866,642	†	†
9. Mysore	155	34	189	†	†	†	†	207,385	†	†
10. Orissa	30	35	65*	47	285	332	76	359,984	0·09	0·021
11. Punjab	†	†	125	205	1,041	1,246	161	687,974	0·18	0·023
12. Rajasthan	5	60	65	16	751	767	249	108,236	0·71	0·230
13. Uttar Pradesh	585	103	688	†	1,893	1,893	268	1,002,586	0·19	0·027
14. West Bengal	†	†	519*	†	†	3,763	430	639,138	0·59	0·067
Union Territories										
1. Andaman & Nicobar Islands	—	1	1	—	20	20	36	960	2·08	3·750
2. Delhi	33	53	86	3	419	422	266	73,536	0·57	0·362
3. Himachal Pradesh ..	21	12	33	—	21	21	15	21,173	0·10	0·071
4. Laccadive, Minicoy and Amindivi Islands.	—	—	—	—	—	—	—	†	—	—
5. Manipur	3	1	4	—	10	10	—	5.715	0·17	—
6. Pondicherry	†	†	3	†	†	†	†	†	†	†
7. Tripura	—	1	1	20	21	41	—	1,454	2·82	—

Note :—

*Includes Hospitals, Homes and Health Centres.

† Information not available.

—Nil information.

Table No. 44

Number of recognised training schools and number of students under training during the year 1957.

Courses	No. of recognised Training Schools	No. of students under training
1. B.Sc. Degree in Nursing	2	146
2. General Nursing	204	8,701
3. Junior (B-Grade) Nursing	31	†
4. Men-Nurses (included in General Nursing)	49	†
5. Mid-wifery for Nurses	222	2,805
6. Mid-wifery for other candidates	22	
7. Auxiliary Nurse-Midwives	96	2,451
8. Health Visitors	18	939

Note:—

*Information pertains to 358 schools out of 376 hospital schools for nurses, midwives, auxiliary nurse—midwives and health visitors in India.

†Information not available.

Table No. 45

Number of registered nursing personnel during the year 1957.

Nursing personnel	Number (registered)
1. Nurses	26,470
2. Midwives	31,412
3. Health Visitors	939
4. Auxiliary Nurse-Midwives	587
5. Nurse Dais/Dais	9,059

Table No. 46

Statement showing the number of students admitted and passed out during the year 1957.

States/Union Territories	Number of medical colleges	Number of students admitted	Number of students passd
1. Andhra Pradesh	5	430	202
2. Assam	1	100	90
3 Bihar	3	214	146
4. Bombay	9	747	575
5. Kerala	2	154	54
6. Madhya Pradesh	4	302	127
7. Madras	4	395	348
8. Mysore	4	358	31
9. Orissa	1	75	45
10. Punjab	3	210	98
11. Rajasthan	1	85	80
12. Uttar Pradesh	3	325	266
13. West Bengal	5	522	689
14. Delhi	2	131	51
15. Pondicherry	1	50	—
Total	48	4,098	2,802

Note:—

—Nil information.

Table No. 47

Recognised medical qualifications granted by Medical Institutions in the States (Approved by the Medical Council of India)
(FIRST SCHEDULE)

Medical Institution 1	Recognised medical qualification 2	Abbreviation for registration 3	
University of Allahabad.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	(Allahabad)
University of Bombay	Licentiate in Medicine and Surgery.	L.M.S.	(Bombay)
	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S.	(Bombay)
	Doctor of Medicine	M.D.	(Bombay)
	Master of Surgery	M.S.	(Bombay)
	Diploma in Anaestheology	D.A.	(Bombay)
University of Calcutta	Licentiate in Medicine and Surgery.	L.M.S.	(Calcutta)
	Bachelor of Medicine	M.B.	(Calcutta)
	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	(Calcutta)
	Doctor of Medicine	M.D.	(Calcutta)
	Master of Surgery	M.S.	(Calcutta)
	Master of Obstetrics	M.O.	(Calcutta)
	Diploma in Ophthalmic Medicine & Surgery.	D.O.M.S.	(Calcutta)
	Diploma in Obstetrics and Gynaecology.	D.G.O.	(Calcutta)
University of Lucknow	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S.	(Lucknow)
	Doctor of Medicine	M.D.	(Lucknow)
	Master of Surgery	M.S.	(Lucknow)
University of Madras	Licentiate of Medicine and Surgery.	L.M.S.	(Madras)
	Bachelor of Medicine & Master of Surgery.	M.B., C.M.	(Madras)
	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S.	(Madras)
	Doctor of Medicine	M.D.	(Madras)
	Master of Surgery	M.S.	(Madras)
University of Patna	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S.	(Patna)
	Doctor of Medicine	M.D.	(Patna)
	Master of Surgery	M.S.	(Patna)
University of Andhra	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S.	(Andhra)
	Doctor of Medicine	M.D.	(Andhra)
	Master of Surgery	M.S.	(Andhra)
	Licentiate in Medicine and Surgery.	L.M.S.	(Andhra)
College of Physicians and Surgeons, Bombay.	Membership of College of Physicians and Surgeons, Bombay.	M.C.P.S. (This will be a recognised medical qualification only when granted after the 30th April, 1944).	(Bombay)

Table No. 47—contd.

Medical Institution 1	Recognised medical qualification 2	Abbreviation for registration 3
College of Physicians and Surgeons, Bombay.	Fellowship of College of Physicians and Surgeons, Bombay, in Medicine, Pathology, Surgery or Dermatology.	F.C.P.S. (Med.) (Bombay) F.C.P.S. (Path.) (Bombay) F.C.P.S. (Surg.) (Bombay) F.C.P.S. (Derm.) (Bombay). (These qualifications will be recognised Medical qualifications only when granted after the 1st April, 1954.)
University of Agra ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Agra)
University of East Punjab	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (East Punjab)
East Punjab State Medical Faculty.	Licentiate in Medicine and Surgery.	L.M.S. (East Punjab) (This qualification shall be a recognised one only when granted on or after the 15th August, 1947 provided the holders thereof had passed F.Sc. examination before taking up medical studies.)
University of Delhi ..	Bachelor of Medicine & Bachelor of Surgery. Diploma in Tuberculosis Diseases	M.B., B.S. (Delhi) D.T-D. (Delhi)
University of Gauhati ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Gauhati) (This will be a recognised medical qualification only when granted after the 20th May, 1952.)
State Medical Faculty of West Bengal.	Membership of the State Medical Faculty of West Bengal.	M.M.F. (West Bengal)
University of Bihar ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Bihar)
University of Poona ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Poona)
Utkal University ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Utkal)
Gujrat University ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Gujarat)
Nagpur University ..	Bachelor of Medicine & Bachelor of Surgery.	M.B., B.S. (Nagpur)
The Maharaja Sayajirao University of Baroda.	Bachelor of Medicine & Bachelor of Surgery.	This will be a recognised medical qualification only when granted after the 1st April, 1954.

Table No. 48

INDIAN MEDICAL COUNCIL ACT, 1933

(SECOND SCHEDULE)

Recognised medical qualifications granted by Medical Institutions Outside the Provinces.

Country	Qualifications
UNITED KINGDOM	Registrable qualifications admitting primarily to the Medical Register granted by licensing bodies in the United Kingdom, as shown in Table 'E' set out in the Medical Register printed and published from time to time under the direction of the General Medical Council in pursuance of the Medical Acts, 1858 1886 and 1950.

Other countries	Registrable Qualifications		Abbreviations
	Title	Nature of qualification as stated on diplomas	
(1)	(2)	(3)	(4)
AUSTRALIA			
New South Wales—			
University of Sydney (*c*)	M.B. M.D. Ch. M., B.S.	Medicine & Surgery	U. Sydney
South Australia—			
University of Adelaide(*a*)(*c*)	M.B., B.S. M.D. M.S.	Do.	U. Adelaide
Victoria—			
University of Melbourne	M. B. M.D., B.S. M.S.	Do.	U. Melbourne
BURMA			
University of Rangoon	M.B., B.S.	Do.	U. Rangoon
CANADA			
Alberta—			
College of Physicians and Surgeons of the Province of Alberta (*b*).	Member	Do.	C.P. and S. Alta
University of Alberta (*b*)	M.D.	Do.	U. Alberta
Manitoba—			
College of Physicians and Surgeons of the Province of Manitoba (*b*).		Do.	C.P. & S. Manitoba
University of Manitoba (*c*)	M.D., M.D., C.M.	Do.	U. Manitoba

Table No. 48—contd.

Other countries (1)	Registrable Qualifications: Title (2)	Registrable Qualifications: Nature of qualifications as stated on diplomas (3)	Abbreviations (4)
North-West Territories—			
College of Physicians and Surgeons of the Province of North-West Territories(*b*) (When held in conjunction with Licence of the College of Physicians and Surgeons of the Province of Saskatchewan or the Province of Alberta).	Member	Medicine & Surgery	C.P. & S. North-West Territories.
Nova Scotia—			
Nova Scotia Provincial Medical Board (*a*)(*c*).	L.M.S.	Do.	Nova Scotia Provincial Medical Board.
Dalhousie University (*a*)(*c*)	M.D., C.M.	Do.	Dalhousie University
Prince Edward Island—			
Prince Edward Island Medical Council (*b*).	L.M.S.	Do.	M.Co.P.E.I.
CEYLON			
Ceylon Medical College (*a*)(*c*)	L.M.S.	Do.	Ceylon M. Coll.
Hong Kong—			
University of Hong Kong (*a*) (*c*)	M.B., B.S. M.D., M.S.	Do.	U. Hong Kong.
Hyderabad—Deccan			
University of— Osmania ..	M.B., B.S.	Do.	U. Osmania
ITALY			
All Royal Itelian Universities (*d*)	M.D.	Do.	
JAPAN			
All Imperial Universities (*e*)	M.B. (Igakushi) M.D. (Igaku Hakushi)	Do.	
Any Government or Prefectural special colleges designated by a Minister of Education of Japan. (*c*)	M.B. (Igakushi)	Do.	
MALTA			
Royal University of Malta	M.D.	Do.	U. Malta
Mysore—			
University of Mysore, Mysore (*g*).	M.B., B.S.	Do.	U. Mysore
NEWFOUNDLAND			
Newfoundland Medical Board (*b*).	L.M.S.	Medicine and Surgery	Nffd. M. Bd.
NEWZEALAND			
University of New Zealand	M.B., Ch. B. Ch. M., M.D.	Medicine and Surgery	U. N. Zealand

Table No. 48—contd.

Other countries	Registrable Qualifications		Abbreviations
	Title	Nature of qualifications as stated on diplomas	
(1)	(2)	(3)	(4)
PAKISTAN			
Punjab University	L.M.S. M.D. .. M.B. M.S M.B., B.S.	Medicine and Surgery	U. West Punjab
Punjab State Medical Faculty (*f*).	L.M.S. ..	Licentiate in Medicine and Surgery.	L.M.S. Punjab
Rajasthan—			
Rajputana University ..	M.B.B.S. .. M.D. (Medicine & Therapeutics). M.D. (Pathology & Bacteriology). M.S. (General Surgery). M.Sc. (Physiology).	Medicine & Surgery	U. Rajputana
Kerala—			
Travancore University ..	M.B., B.S. ..	Bachelor of Medicine and Bachelor of Surgery.	U. Travancore
University of Kerala ..	Do.	Do.	M.B., B.S.(Kerala)
UNION OF SOUTH AFRICA			
University of South Africa(*b*) ..	M.B., Ch. B. ..	Medicine & Surgery	U.S. Africa.
University of Cape Town (*a*)(*c*).	M.B., Ch. B. M.D., Ch. M.	Do.	U. Cape Town
University of the Witwatersrand, Johannesburg(*a*)(*c*).	M.B., Ch. B. .. M.D., Ch. M.	Do.	U. Witwatersrand
STRAITS SETTLEMENTS AND FEDERATED MALAY STATES			
The King Edward VII College of Medicine, Singapore (*a*)(*c*).	L.M.S. ..	Do.	Singapore Med. College.

NOTE :—

(*a*) The qualification must be included in Table (F) of the British Medical Register as published from time to time by the General Council of Medical Education and Registration of the United Kingdom.

(*b*) When granted on or before the 31st October, 1937.

(*c*) When granted on or before the 31st March, 1942.

(*d*) When granted on or before the 10th October, 1940.

(*e*) When granted on or before the 8th December, 1941.

(*f*) This qualification shall be a recognised one only when granted before the 15th August 1947, provided the holders thereof had passed F.Sc. examination before taking up medical studies.

(*g*) This qualification shall be a recognised qualification only when granted after the 31st December, 1932.

Table No. 49

Statement showing the import of essential drugs during the year 1957.

	Name of the drugs	A/U	Quantity	Value (in Rupees)
1	Acetyle Salicylic Acid	Kgm.	247,335·365	14,45,876
2	Anhydrous Dextrose	Kgm.	730,119·170	5,07,697
3	Anti-leprosy Drugs	Kgm.	7,427·489	3,38,336
4	Arsenicals (for other infections) ..	Kg.	3,142·480	2,40,947
5	Arsenicals (for the treatment of syphillis)	Kg.	1,693·880	5,87,090
6	Barbiturates	Tab. Kgm.	40·000 4,919·233	2,32,635
7	Chlorophenicol	Kgm.	4,082·256	47,21,841
8	Chloroform	Kgm.	130,320·550	3,19,108
9	Chlortetracycline	Kgm.	1,850·283	29,70,361
10	Emetine Hydrochloride	Kgm.	168·620	10,56,320
11	Hexamine	Kgm.	31,508·300	79,175
12	Insulin	M.U.	284·259	14,53,071
13	Iodine	Kgm.	7,207·200	96,823
14	Ipecaco-Root	Kgm.	6,724·000	5,09,744
15	Isonicotinic Acid Hydrazide ..	Kgm.	4,899·684	3,10,096
16	P.A.S.	Kg.	142,763·121	24,27,835
17	Penicillin and its preparations ..	M.U. Kgm.	50,079,835·500 339·079	1,72,37,397
18	Phenacetin	Kgm.	109,167·069	9,27,979
19	Potassium-Iodine	Kgm.	17,514·300	2,74,534
20	Procaine Hydrochloride	Kgm.	5,786·250	1,56,755
21	Sodium Bicarbonate	Kgm.	556,281·820	3,19,689
22	Sodium Salicylate	Kgm.	52,591·770	2,94,020
23	Streptomycin	Kg.	31,773·951	1,37,12,134
24	Sulpha drugs	Kgm. Lit. Tabs.	439,700·899 40·000 2,000·000	1,11,48,739
25	Synthetic Anti-malarial drugs ..	Kg. Tabs.	21,379·660 4,500·000	43,41,092
26	Synthetic diabetic drugs (Carbutamide Tolbutamide)	Kgm.	4,787·670	12,66,606

Note :— A/U=Accounting Unit.

Table No. 50

New drugs permitted to be imported under Rule 30-A of the Drugs Rules during the year 1957-58.

1. Andantol	(N. Dimethylamine isopropyl thiphenyl pyridyl amino-Hcl—Anti-histaminic).
2. Baytenal or Transithal	(5, 5 Allyl—(2-methylpropyl)—thiobarbiturate Anaesthetic.
3. Brodex vioform cream	(Cream containing a new ingredient Bradosol with pyribenzamine and vioform)—Anti-mycotic agent.
4. Botropase	(A coagulant prepared from a particular species of snake venom).
5. Dimethicone	(Siopel Cream)—Protective Cream used for its skin adhearing and water—repellent properties.
6. Doriden	(ethyl—phenyl dioxipiperidine)—Sedative and Hypnotic.
7. Entobex	(t, 6 quinone, 4, 7 Phenanthroline) Amoebicide.
8. Halotestic	(Fluoxy-mesterone 9A-flroro-11B—hydroxy 17 methyl testosterone)—Anabolic agent.
9. Leukeran	(p-di-2 Chlorethyl Amine Phenyl butyric acid) —Cytotoxic agent.
10. Meprylocaine	(2 methyl-2-amino propyl ester of benzoic acid)—Local Anaesthetic.
11. Mevasine	(3 methyl-2-amino-iso camphane) Anti-hypertensive.
12. Novobiocin	(Cathomycin)—Antibiotic.
13. Pectamol	(Citrate of diethylamino-ethoxyethyl ester of diethyl acetic acid)—Anti-tussive.
14. Prednisolone Trimethyl Acetate	(Ultracortenol)—An adrenocortical hormone.
15. Poliomyelitis Vaccine	(A Vaccine for immunisation against poliomyeitis).
16. Pyridostigmin Bromide	(Mestinon)—Vegotonic and anti-myasthenic agent
17. Spiramycin	(Rovamycin)—Antibiotic.
18. Sulphamethoxy Pyridazine	(Lederkyn)—Sulphonamide.
19. Tabefen	(INH and Nicotinaldehyde thio-semi carbazone)—Anti-Tubercular.
20. Tavipec	(Solution of Oleum Lavendulae in Oleum Olivae) Expectorant.
21. Teoquil	(Hexa-deca-methylene-bisiso-quinolinium chloride) —Anti-fungal compound.
22. Tolbutamide	(Rastinon).
23 Triamelinolone	(Ledercort)—Corticosteroid.

Table No. 51

Statement showing summary of work done on Medico-Legal investigations by Chemical Analysers, Chemical Examiners and the Serologist, Government of India during the years 1956 and 1957.

Office	Years	Human poisoning		Animal poisoning		Strains		Miscellaneous		Total		General analysis and other work	
		Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Director-cum-Sr. Chemical Examiner, F.S. Laboratory, Calcutta ..	1956	1,408	2,574	79	142	1,418	6,611	63	225	2,968	9.552	†	†
	1957	445	1,329	17	17	1,180	5,761	600	1,047	2,242	8,154	540	1,254
2. Chemical Examiner, Punjab, Kasauli	1956	768	2,369	13	42	1,356	3,873	—	45	2,137	6,329	†	†
	1957	1,268	3,514	23	58	756	2,919	525	1,170	2,572	7,661	6,453	8,304
3. Chemical Examiner to the Govts. of U.P. & M.P., Agra	1956	629	1,813	14	20	1,928	9,924	6	43	2,577	11,800	†	†
	1957	493	1,412	26	48	1,706	8,683	8	23	2,233	10,166	1,544	4,721
4. Chemical Examiner, **Bombay** ..	1956	2,102	3.662	56	112	1,552	9,002	246	1,033	3,956	13,809	†	†
	1957	2,511	4,510	56	210	2,058	13,313	220	1,167	4,845	19,200	—	29,936
5. Chemical Examiner, Madras ..	1956	1.503	5,796	36	234	1,227	7,353	232	1,384	2,998	14,767	†	†
	1957	1,368	5,673	45	292	1,240	7,597	234	1,523	2,887	15,085	15	22
6. Chemical Examiner, Jammu and Kashmir, Jammu	1956	95	245	17	21	67	152	1	1	180	419	†	†
	1957	75	213	17	13	46	104	1	2	139	332	188	188
7. Chemical Examiner, Mysore, Bangalore	1956	152	643	—	—	191	1,298	15	42	358	1,983	†	†
	1957	320	1,142	—	—	529	3,329	118	202	967	4,673	—	—
8. Chemical Analyser, Indore ..	1956	142	408	3	3	285	1,210	159	1,287	589	2,908	†	†
	1957	155	655	2	4	288	2,443	162	436	607	3,538	424	424

Note :— *Information not available. —Nil information.

Table No. 51—contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
9. Chemical Examiner, Rajasthan Jaipur	1956	263	523	1	7	212	1,263	95	205	571	1,998	†	†
	1957	261	490	1	4	286	1,914	99	242	647	2,650	—	—
10. Chemical Analyser, Junagadh ..	1956	62	103	1	1	201	1,306	5	—	269	1,410	†	†
	1957	75	370	—	—	327	1,836	13	155	415	2,361	2,525	5,425
11. Chemical Examiner, Andhra ..	1956	—	—	—	—	—	—	—	—	—	—	—	—
	1957	395	747	5	14	203	1,139	69	122	672	2,022	6	94
12. Serologist and Chemical Examiner to the Govt. of India, Calcutta ..	1956	—	—	—	—	7,313@	39,984@	—	—	7,313	39,984	†	†
	1957	—	—	—	—	7,610*	39,914*	—	—	7,610	39,914	4,298△	21,329△ 16,029@@
Total ..	1956	7,124	18,136	220	582	15,750	81,976	822	4,265	23,916	1,04,959	†	†
	1957	7,366	20,055	192	660	16,229	88,952	2,049	6,089	25,836	115,756	15,993	87,726

Note :—

@Includes 116 cases and 160 articles from the Union of Burma.

* Includes 150 cases with 236 articles from the Union of Burma.

△ Detection of blood and seamen group from stains etc. for medico-legal purposes.

@@7,972 Wasserman reactions, 7,787 VDRL and 270 Kahn test.

@Information not available.

— Nil information.

Table No. 52

Statement showing statistics of work done by Health Organisations at major Seaports in India during the year 1957.

Particulars of work	Bombay	Calcutta	Madras	Cochin	Visakhapatnam	Kandla	Total
Incoming Vessels—							
Ships medically inspected	206	50	498	223	84	228	1,289
Crews medically examined	36,915	2,729	29,064	11,603	4,160	4.882	89,353
Passengers medically examined	24,006	864	31,786	2,389	—	13,252	72,297
Ships arriving from Yellow Fever areas ..	160	28	45	36	27	—	296
Members of crew arriving from Yellow Fever areas	13,551	1,562	2,773	1,986	1,115	—	20,987
Passengers arriving from Yellow Fever areas	24,627	20	56	13	—	—	24,716
Infectious diseases detected on vessels ..	17 Chickenpox 17 measles	6 Chickenpox	7 Chickenpox 1 smallpox 1 Cholera	1 Chickenpox 1 Measles	1 Measles	—	—
Influenza cases arrived on vessels attended	82	45	562	17	17	16	739
Outgoing-Vessels—							
Ships medically inspected	1,178	1,562	346	395	192	103	3.776
Passengers medically examined	78,366	14,749	28,860	4,950	12	6	1,24,943
Crews medically examined	70,234	66,423	20,829	21,924	9,261	5,027	1,93,698
No. of ships inspected for lasker provision	436	610	71	54	34	11	1,216
No. of ships inspected for medical stores on board	16	104	46	—	—	12	178
No. of ships given to medical advice on high seas	16	14	8	1	—	—	39
No. of ships fumigated	43	33	—	—	—	—	76
No. of ships issued with D.E.C.	172	161	29	16	22	—	400
No. of ships issued with permits	13	—	22	8	5	—	48
No. of pilgrimship inspected Haj ..	19	—	—	—	—	—	—
No. of pilgrims inspected Haj	— Outgoing Vessels 12,734 Incoming Vessels 13,505	Ganga Sagar Mela Embarking 9.832 Disembarking 8,922	—	—	—	—	—

Note:— —Nil information.

Table No. 53

Statement showing particulars of aircraft medically inspected which arrived from and left for foreign countries from international airports in India during the year 1957.

Particulars	Bombay airport (Santacruz)	Calcutta airport (Dum Dum)	Madras airport	Tiruchirapalli airport	Delhi airport (Palam)	Amritsar airport	Dispensary airports	Total
Inward Traffic—								
Aircrafts medically inspected	1,612	2,992	475	578	1,414	397	4	7,472
Passengers medically inspected	53,278	93,287	8,433	11,495	32,611	3,738	59	2,02,901
Crews medically examined	13,731	23,942	2,275	2,319	10,400	1,874	31	54,572
No of aircraft disinfected	737	79	—	—	92	—	—	908
Passengers quarantined in hospitals for being at risk to Yellow Fever ..	228	5	—	—	—	—	—	233
Outward Traffic—								
Aircraft medically inspected	1,529	3,032	494	576	1.006	—	—	6.637
Passengers medically examined	56,233	93.892	7,696	9,593	20,125	—	—	1,87,539
Crew medically examined	13,187	25,179	1,833	2,309	8,091	—	—	50,599
Dispensaries								
Number of patients treated	22,635	11,922	—	—	—	—	—	34,557

Note:— —Nil information.

Table No. 54

Statement showing the statistics of the Seamen examined at various major Seaports in India and Seamen treated at the Seamen's Clinic, Bombay, Calcutta, Madras, Cochin and Visakhapatnam during the years 1956 *and* 1957.

Particulars	Bombay		Calcutta		Madras		Cochin		Visakhapatnam		Total	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
Seamen examined	9,582	6,568	11,580	6,030	281	204	187	63	193	100	21,823	12,965
Seamen declared fit	6,155	5,641	8,708	4,139	237	151	179	59	161	85	15,440	10,075
Seamen declared temporarily unfit ..	3,323	837	2,508	1,613	30	49	7	4	13	11	5,881	2,514
Seaman declared permanently unfit ..	104	90	365	278	4	4	1	—	19	4	493	376
Seamen's Clinics												
(Seamen treated as out-patient)												
1. New Cases	1,778	1,843	2,221	1,346	†	†	†	†	†	†	3,999	3,189
2. Old Cases	5,068	5,037	18,377	11,014	†	†	†	†	†	†	23,445	16,051
Seamen treated as in-patients	†	250	†	†	†	†	†	†	†	†	†	250
Total ..	26,010	20,266	43,759	24,420	552	408	374	126	386	200	71,081	45,420

Note:—

†Information not available.

—Nil information.

Table No. 55

List of candidates awarded fellowships by different international agencies during the year 1957.

Agency	Country	Subject	Period	No. of fellowships
W. H. O. ..	U.S.A. ..	P. H. Engineering ..	6 months ..	1
	Do.	Do.	12 months ..	3
	Do.	Vital Statistics ..	3 months ..	1
	Do.	Maternity & Child Health.	12 months ..	1
	Do.	Nursing	12 months ..	1
	Do.	Health Education ..	12 months ..	6
	Do.	Tuberculosis ..	12 months ..	1
	Do.	Paediatrics ..	12 months ..	1
	U. K. ..	Dentistry	12 months ..	1
	Do.	P. H. Engineering ..	12 months ..	1
	Do.	Medical Bacteriology	12 months ..	1
	Do.	Anatomy	12 months ..	1
	Newzealand ..	Nursing	6 months ..	1
Colombo Plan	Nigeria ..	Leprosy	8 weeks ..	2
		E.N.T.	†	1
		Anaesthesia ..	†	1
		Tuberculosis ..	†	1
	Canada ..	Nursing	†	1
	Australia ..	Ward Sister's Course	†	5
	Do.	Nursing Administration	†	2
	Do.	Sister-Tutor Diploma	†	1
	Do.	Theatre Management & Technique.	†	1
	U. K. ..	Plastic Surgery ..	†	1

Note :—†Information not available.

Table No. 56

Statement showing the number of International Experts to be provided by W.H.O. in different projects during the year 1957.

Serial No.	Name of Project	No. o expert
1	T. B. Control and Training Centre, Madras	5
2	T. B. Chemotherapy Centre, Madras	4
3	T. B. Control and Training Centre, Hyderabad	4
4	T. B. Control Training Centre, Nagpur	4
5	T. B. Control and Training Centre, Agra	4
6	Trachoma Pilot Project, Uttar Pradesh	1
7	Vital and Health Statistics	1
8	Rural Health and Nursing Education, Assam	4
9	Public Health and Nursing Education, Andhra	4
10	Public Health Programme, Rajasthan	3
11	Public Health Programme, Madras	4
12	Public Health Programme, Punjab	3
13	Nursing, Ludhiana	1
14	Post Certificate Course for Mid-wife Tutors, College of Nursing, New Delhi	1
15	Domiciliary Nursing and Mid-wifery, Lady Hardinge Medical College Hospital, New Delhi	2
16	Nursing Education (Public Health Integration)	3
17	Nursing Advisers to States	2
18	Health Education	5
19	M. C. H., All India Institute of Hygiene and Public Health, Calcutta	3
20	M. C. H./Nursing, Bihar	2
21	M. C. H./Nursing, Bombay	3
22	M. C. H./Nursing, Hyderabad	2
23	M. C. H./Nursing, Madhya Pradesh	4
24	M. C. H./Nursing, Mysore	4
25	M. C. H./Nursing, Saurashtra	2
26	M. C. H./Nursing, Travancore-Cochin	3
27	M. C. H./Nursing, Uttar Pradesh	3
28	M. C. H./Nursing, West Bengal	2
29	M. C. H./Nursing, Education, Andhra	4
30	M. C. H./Nursing, Assam	4
31	All India Institute of Mental Health, Bangalore	3
32	Assistance to Nutrition Research Institute	1
33	Environmental Sanitation, Public Health Engineering, University of Madras	1
34	Environmental Sanitation, Travancore-Cochin and States Undesignated	4
35	Co-ordination of Research	1
36	Training of Professor in Preventive and Social Medicine	5
37	Paediatrics Education	1
38	Rehabilitation Centre, Bombay	1
39	Training Centre for X-Ray Technicians, Madras	1

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